

The Far Eastern Review

ENGINEERING + FINANCE + COMMERCE

A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in Far Eastern Countries.

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CHINA

China (Chung Kuo) comprises China Proper (eighteen provinces), Manchuria, Mongolia, Sinkiang and Tibet.

Area and Population.—Accurate figures of area and population are impossible to secure. It is generally accepted that the total area is between 4,278,352 and 4,376,000 square miles. The area of China Proper—that is, the provinces of Chihli, Shantung, Shansi, Shensi, Honan, Kiangsu, Kiangsi, Anhwei, Chekiang, Fukien, Hupeh, Hunan, Kansu, Szechuan, Kuangtung, Kuangsi, Kweichow and Yunnan—is set down at 1,532,815 square miles. Its length from north to south is 1,860 miles, and its breadth 1,520 miles.

The estimated population of China Proper ranges from 271,770,000 (331,000,000 is the Mingchengpu census of 1910) to 407,253,029. The generally accepted figure is that of the Mingchengpu census. The total population for the whole of China is estimated at between 342.6 millions and 448,000,000.

The Foreign Population in 1918, according to Customs reports, was as follows: American, 5,766; Austrian, 271; Belgian, 360; Brazilian, 16; British, 7,953; Danish, 475; Dutch, 377; French (including 918 proteges), 2,580; German, 2,651; Hungarian, 7; Italian, 535; Japanese, 159,950; Norwegian, 279; Portuguese, 2,417; Russian, 59,719; Spanish, 298; Swedish, 530; Non-treaty Powers, 343; total, 244,527. The figures of German and Austrian population in 1918 were greatly reduced by repatriation in 1919.

Government.—The Government of the eighteen provinces is entrusted to civil and military Governors, and under them each province is subdivided into circuits superintended by Taoyins or intendants, and again into districts. All the territorial officials are appointed by the Central Government, and the Provincial Governors, though free to act independently in many matters of local detail and finance, are responsible to the Central Government at Peking in all important questions, and especially in foreign affairs.

The Army.—The total strength in all forces after the rebellion in 1913 was estimated at 600,000. As various commanders recruit to suit their own purposes no accurate figures are available, but at the end of 1917 it is probable that 800,000 men were under arms.

The Navy.—This arm of the defense is out of date. China possesses two protected cruisers built in 1911 (2,756 tons), four older protected cruisers (4,300-3,000 tons), three torpedo gunboats (850 tons), eleven gunboats (750-550 tons), four destroyers (400 tons), and eight small torpedo boats (120 tons).

Currency.—The standard currency in China is silver, its unit being the Tael, which is not a coin but a weight, its value varying considerably. In 1882, in Shanghai, the tael was worth 5s. 2d.; in 1892 the Haikwan Tael (the official Customs Tael) was worth 4s. 4½d.; in 1907, 3s. 3d.; in 1917, 4s. 3½d.; in 1918, 5s. 3½d. Various silver dollars circulate, as well as copper cents, while cash is greatly used among the poorer classes and country people. The cash should weigh one-tenth of a tael and have the value of 1,000 cash to a silver tael, but this standard is never maintained. In 1882 a Shanghai tael (5s. 2d.) was equal to 1,690 cash, and in 1902 when the tael was worth 2s. 7½d. it was equal to 1,240 cash.

Foreign Trade of China.—In 1918 the net value of foreign trade of China was the highest on record, the total being Hk. Tls. 1,040,776,113, an increase of Hk. Tls. 28,325,709 over that for 1917. Net imports of Hk. Tls. 554,893,082 compared with Hk. Tls. 549,518,774 in 1917; and exports of Hk. Tls. 485,883,031 compared with Hk. Tls. 462,931,630 in 1917.

Treaty Ports, Trading Ports, and Ports of Call.—There are forty-eight treaty ports in China, which are classified by the Chinese Maritime Customs as follows:

Northern Ports: Aigun, Sansing, Manchouli, Harbin, Suifenho, Hunchun, Lungchingsun, Antung, Tatungkow, Dairen, Newchwang, Chinwangtao, Tientsin, Lungkow, Chefoo and Kiaochow.

Yangtze Ports: Chungking, Ichang, Shasi, Changsha, Yochow, Hankow, Kiukiang, Wuhu, Nanking and Chinkiang.

Central Ports: Shanghai, Soochow, Hangchow, Ningpo and Wenchow.

Southern Ports: Santau, Foochow, Amoy, Swatow, Canton, Kowloon, Kongmoon, Samshui, Lappa, Wuchow, Nanning, Kiungchow and Pakhoi.

Frontier Ports: Lungchow, Mengtze, Szemao and Tengyueh.

Ports Opened to Trade are: In *Manchuria*: Mukden, Fakumen, Fenghwangcheng, Sinminfu, Teihling, Tungkiangtze, Yingkow (Newchwang), Liaoyang, Changchun, Kirin, Ninguta, Chuizuchien, Toutaokow, Tsitsihar, Hailar. In *Sinkiang*: Kashgar. In *Shantung*: Chow'sun, Tsinanfu, Weihaiwei, Weihsien. In *Kiangsu*: Woosung. In *Tibet*: Gartok and Gyantze.

Ports of Call: For Passengers and Cargo: In *Kuangtung*—Kumchuk, Shuihsing, Pakto, Takhing, Lating, Dosing. In *Kiangsi*—Hankow. In *Anhwei*—Tatung, Anking. In *Hupeh*—Wusueh and Luk'kow.

For Passengers: In *Kiangsu*—Kiangyin, Icheng. In *Hupeh*—Hwang-shihkang, Hwangchow. In *Kuangtung*—Fengtsun, Kaukong, Yutshing, Lukpa, Howlik, Loto, Maning, Yungyan, Kulo and Jungki.

Railways. —Government railways in operation	...	...	3,793 miles
Concessioned railways in operation	...	...	1,847 "
Private railways in operation	150 "

Total railways in operation	5,790 miles
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Government railways under construction are about 330 miles.

Weights and Measures.—1 Tael (*Liang*)=583.3 grains (1½-oz. avoirdupois)=37.783 grams.

16 Taels=1 CATTY (*Chin*)=1½-lb. avoirdupois=604.53 grams.

100 Catties=1 PICUL (*Tan*)=133½-lb. avoirdupois=60.453 kilograms=147.67 Russian pounds.

Length: 1 Chih=14.1 inches or 0.358 meters.

1 Li=about one-third of a mile (or theoretically 2,115 feet, or two-fifths of a mile).

Area: 1 Mow (Shanghai)=one-sixth of an English acre.

Capacity: 1 Tow (for tribute)=629 cubic inches (10.31 liters).

Rivers.—The Yangtze-kiang is 3,200 miles in length. It rises in Tibet and drains some three-quarters of a million square miles of country. It is navigable for large steamers to Hankow (600 miles from the sea), for slightly smaller vessels to Ichang (1,000 miles), for small steamers and steam launches for 300 miles farther, and for junks for 200 miles farther; or a total distance of half its length is available for the transport of merchandise. The river was opened to foreign trade by the Treaty of Tientsin (1858).

The Yellow River, or Huang-ho, rises about 100 miles from the source of the Yangtze. It is from 2,500 to 2,700 miles long, but is navigable only by junks, the vast quantities of silt carried by it and deposited in its channel rendering steam navigation impossible.

The Sikiang, or West River, rises in Yunnan and reaches the sea by several months near Canton. Its length is about 1,000 miles. Steamers go as far as Wuchow, some 220 miles from Canton and launches some 200 miles farther. Junks navigate it to near its source.

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APRIL, 1920

THE YALE UNIVERSITY
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THE FAR EASTERN REVIEW

ENGINEERING FINANCE COMMERCE

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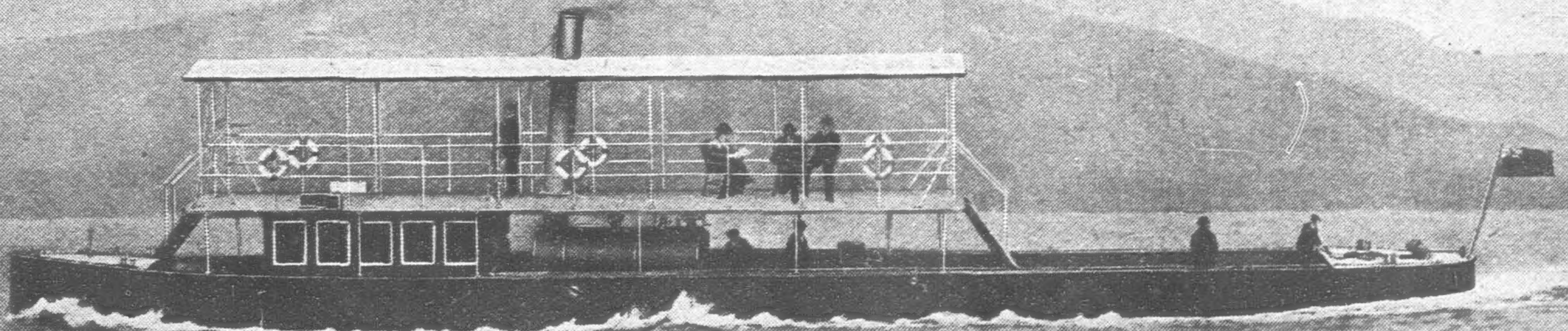
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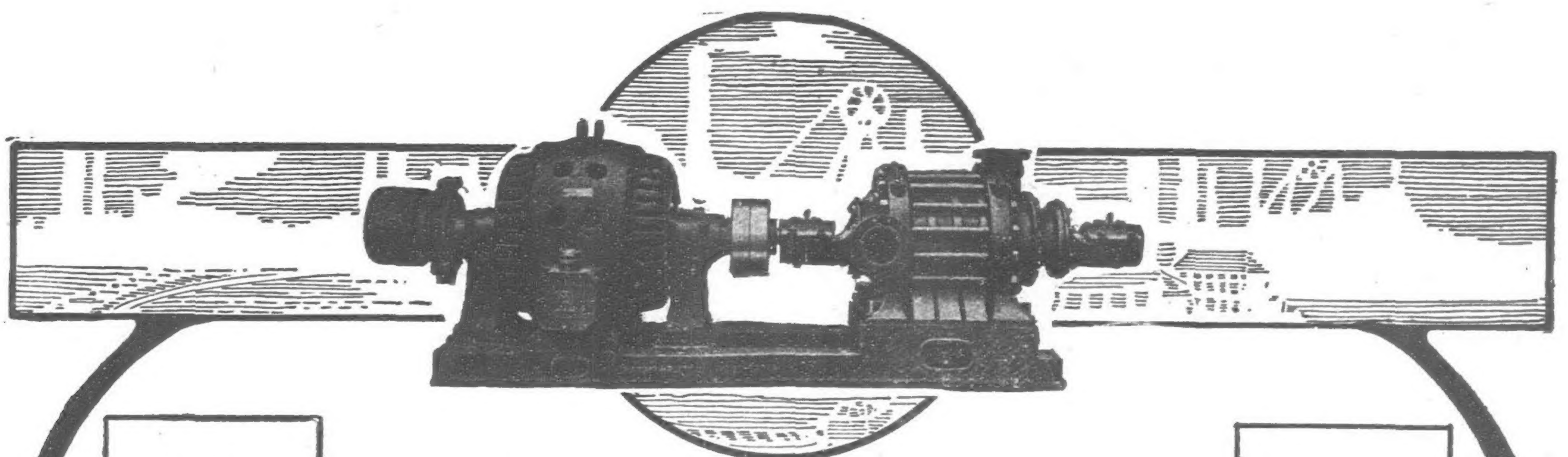
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The Far Eastern Review

ENGINEERING

FINANCE

COMMERCE

VOL. XVI*

SHANGHAI, APRIL, 1920

No. 4

Port and Railway Schemes for South China

Dr. Sun Yat Sen's Third Program for the International Development of China

The First Program for the International Development of China as devised by Dr. Sun Yat-sen was published in the FAR EASTERN REVIEW of June, 1919, and embraced: (1) the construction of a great Northern port on the Gulf of Pechihli; (2) the building of a system of railways from the great Northern port to the North-Western extremity of China; (3) the colonization of Mongolia and Turkestan; (4) the construction of canals to connect the inland waterway systems of North and Central China with the great Northern port; and (5) the development of the iron and coal fields in Shansi and the construction of an iron and steel works. In the FAR EASTERN REVIEW of August, 1919, the Second Program was published and comprised (1) a great Eastern port; (2) the regulation of the Yangtze channels and embankments; (3) the construction of river ports; (4) the improvement of existing canals and waterways in connection with the Yangtze, and (5) the establishment of large cement works.

By Dr. Sun Yat-sen, ex-President of China.

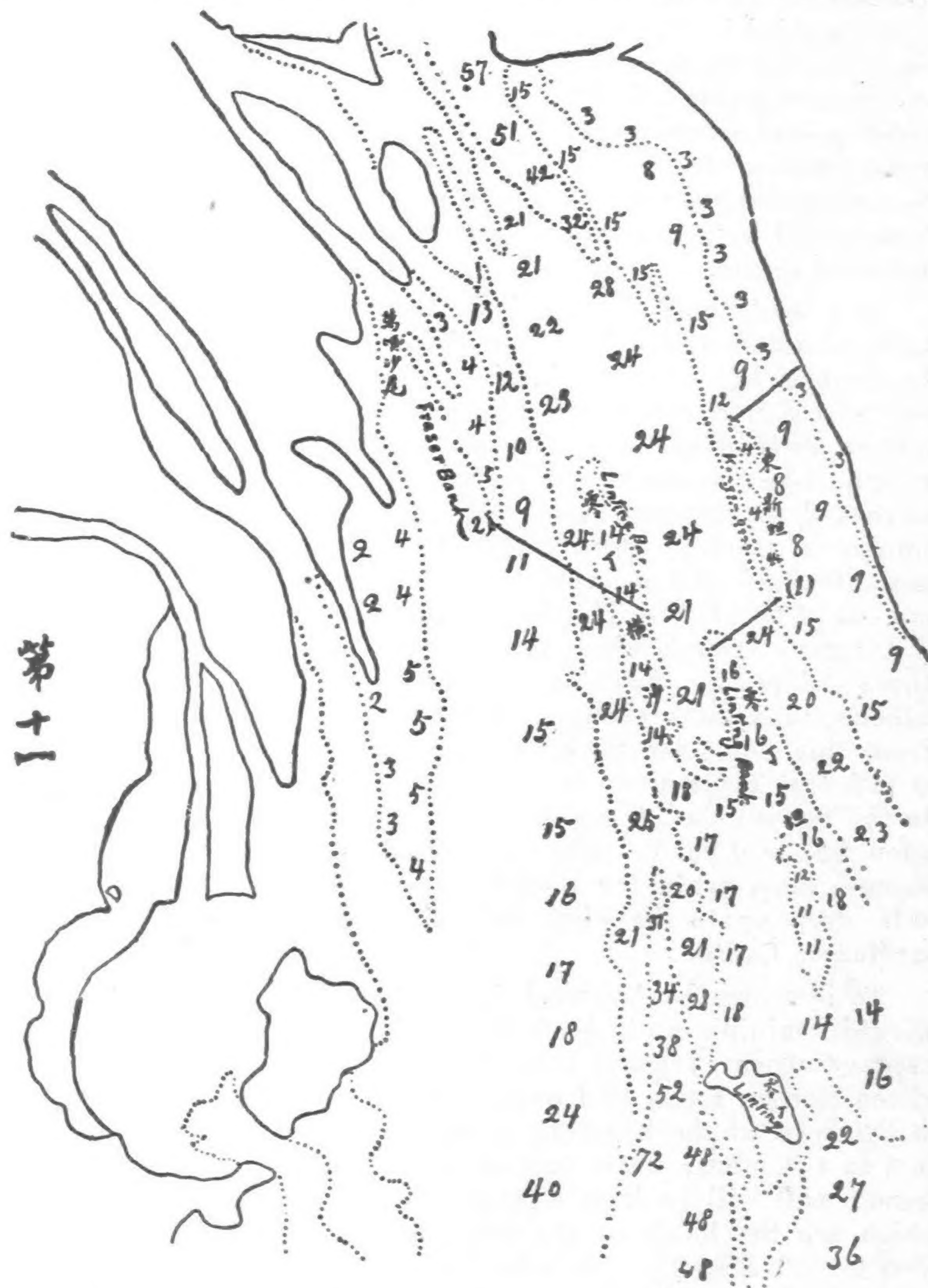
THE main feature of the third program will be the construction of a great southern port which will complete the plan for three first-class seaports in China as proposed in the preliminary part of this International Development Scheme. Our Great Southern Port will naturally be Canton, which is not only the centre of commerce in South China but also the largest city in all China. Until recent times it was the largest city on the Coasts of the Pacific, and the centre of commerce of Asia. With the development of China, Canton will surely resume its former importance. Around this southern metropolis I formulate the third program as follows:—

- I. The Improvement of Canton as a World Port.
- II. The Improvement of the Waterway System of Canton.
- III. The Construction of the Southwestern Railway System of China.
- IV. The Construction of Coast Ports and Fishing Harbors.
- V. The Establishment of Shipbuilding Yards.

Part I.—The Improvement of Canton as a World Port

Canton's position as a seaport has been taken away by Hongkong since its session to England after the Opium War. But as a commercial centre of South China, Canton still holds its own, despite the advantages of deep-water harbor, the artificial improvements of Hongkong, and the political dominance of England. The loss of its position as a seaport is entirely due to the ignorance of the Chinese people who never made any combined effort to improve the welfare of the country, and also to the corrupt government and officials of the Manchu dynasty. Since the establishment of the Republic, the people have begun to awake very rapidly and many schemes have been suggested to make Canton a seaport. This awakening of the millions of Chinese has caused much apprehension to the Hongkong Government. The authorities of that colony have been doing their utmost to hinder every move to restore Canton as a seaport and try to nip every scheme in the bud. Of course, if Canton is improved and made into a world port, then all the services that Hongkong performs for her as a shipping stage would be dispensed with altogether. But a developed Canton and a prosperous China will recompense Hongkong in various ways a hundred times more than its present position as the monopolized ocean port of a backward and poor China. Just look at the port of Victoria in British Columbia, which was once the only seaport of West Canada as well as the Northwestern region of

the United States, but it prospered very little then with an undeveloped hinterland despite its monopolistic character. Whereas as soon as the rival ports arose Vancouver on its own side, and Seattle and Tacoma on the American side, all within



MAP I—Estuary of the River at Canton

the same distance as Hongkong is to Canton, all of them because of a developed hinterland prospered wonderfully, despite the keen competition between them as seaports. Thus, we see that competitive seaports like Vancouver, Seattle, and Tacoma instead of killing Victoria, as was once supposed by shortsighted people, have made it more prosperous than ever. Then, why doubt that a prosperous Canton and a developed China would not give the same result to Hongkong? This is but a natural outcome. Therefore, there should be no fear that a prosperous Canton and a developed China would be harmful to Hongkong as a free port. So, instead of doing the utmost as hitherto to hinder the development of Canton as a seaport, the Hongkong authorities should do their utmost to encourage such a project. Besides, the development of Canton and South China will benefit the English as a whole commercially a hundred times more than Hongkong can do at present. Although the local authorities of that crown colony do not see far enough to realize it, however, I believe that the great statesmen and captains of industries in the now mightiest empire of the world would surely see it. With this belief in my mind I feel quite safe in giving publicity to the scheme of my international development of Canton as a world port in South China.

Canton is situated at the head of the Canton Delta, which is formed by the junction of three rivers—the Sikiang or West River, the Peikiang or North River, and the Tungkiang or East River. The area of this delta is about 3,000 square miles and has the most fertile alluvial soil known in China. The land yields three crops a year—two crops of rice and one crop of other products such as potatoes or beets. In silk culture, it gives eight crops every year. The most delicious fruits of many varieties are produced in this delta. This is the most thickly populated district of all China. Within this delta and its immediate neighborhood, more than half of the population of Kwangtung province is found. This is the reason why, despite the great productivity of this fertile delta, large quantities of foods have to be supplied by the surrounding country as well as by foreign imports. Before the age of machinery Canton for centuries was well known as an industrial centre of Eastern Asia. The workmanship and handicraft of its people are still unequalled in many parts of the world. If machinery will be introduced in its industries under our international development scheme, Canton will soon recover its former grandeur as a great manufacturing centre.

As a world port, Canton is in a most advantageous position. Being situated at the junction of three navigable rivers and at the head of the ocean navigation is a pivot of inland water as well as ocean communication in South China. If the South-western railway system is completed, then Canton will be equal in importance to the two great ports in North and East China, in regard to transportation facilities. The ocean approach of Canton is generally deep excepting at two points which can be easily trained and dredged to enable modern liners to pass in and out at any hour. The deep water line of the ocean reaches up to Lingting Island, where the depth is from 8 to 10 fathoms. Above Lingting, the channel gets shallower (about 3 or 4 fathoms) and runs about 15 miles up to the Fumen Entrance. From this point the water becomes deep again (between 6 and 10 fathoms) right up to the Second Bar—a distance of 20 miles. At the Second Bar, the water is about 18 to 20-ft. deep for only a few hundred yards. After crossing the Second Bar, the water becomes deep again for a distance of 10 miles averaging about 30-ft. deep up to the First Bar which will be the city limit of our future Canton.

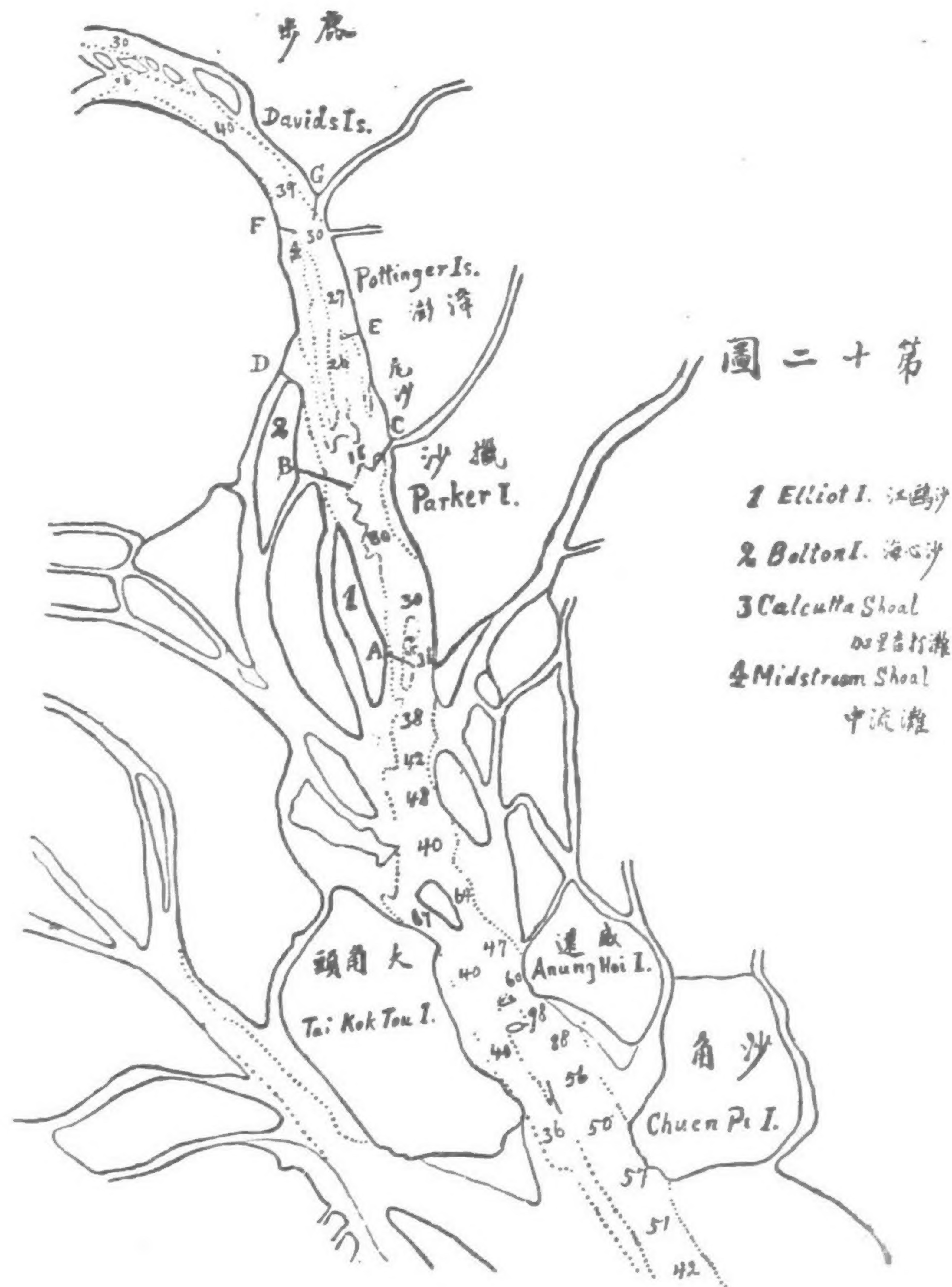
To improve the Approach to Canton, I suggest that two submerged training walls be built at the left side of the Canton Estuary above Lingting Island—one from the shore to the head of the Kongsu Bank, and another from the end of the same bank to the head of the Lingting Bank. The first training wall will be 3 to 4-ft. under water just at the same level of the bank. The second wall will be from 4-ft. at one end to 16-ft. at the other, which are the levels of the respective banks which it connects. (See (1) (3) Map I). It will cross a channel of 24-ft. deep between them. These two walls together with the four-foot Kongsu Bank will act as one continuous wall and will direct the

undercurrent which now runs between the left shore and Lingting Bank, into the middle part of the estuary, thus cutting a channel between the bar and the bank of the same name to meet the deep water on the west side of Lingting Island. On the right side of the Canton Estuary, a training wall should be built from the lower part of Fraser Bank in a southeasterly direction across the 24-foot channel into the Lingting Bar ending at the east edge of that bar. (See (2) Map I). Thus, with these submerged walls on both sides of the estuary to confine the undercurrent in the middle, a very deep channel can be formed to connect with the Fumen Entrance at one end and the Lingting trough at the other both of which are about 50-ft. deep so that a thoroughfare from deep sea right up to the Second Bar of the Pearl River will be created.

These submerged sea walls taken together are about 8 miles in length and will be built only 6 to 12-ft. from the bottom of the sea. The expenses will not be much while the acceleration of the natural reclamation process will be very great. Thus, the lands that will be formed on both sides by these walls will far more than repay the expenses of the work of building these walls.

To regulate the Approach of Canton, in that part of the Pearl River from the Fumen Entrance to Whampoa, I suggest that the East River Estuaries be concentrated in a single outlet by using the uppermost channel which joins the Pearl River at the lower point of Davids Island. The other outlets of the East River, which joins the Pearl River below the Second Bar, should be closed up by dams built to the height of the normal water level so as to permit them to serve as flood channels in the rainy season. By concentrating the whole volume of water of the East River above the Second Bar, a stronger current could be obtained to flush the upper part of this section of the river.

In the training works of this section, I propose that several jetties should be built as follows: First, a jetty from Elliot Island at point (a) to the farther side of Calcutta Shoal opposite the lower point of Parker Island. This will block the current



MAP II

between Elliot Island and Calcutta Shoal and divert it into the present 36-ft. channel thus making it deeper by its natural force. Second, another jetty from Bolton Island, at point (b) to midstream terminating at the lower side of the Second Bar, on the right side of the river. Third, a jetty from the lower point of Pottinger Island at (c) to midstream terminating at the lower side of the same bar on the left side of the river. Thus the Second Bar would be flushed by the concentrated current created by these two jetties. The shallow bottom above these jetties should be dredged to the required depth. If a rocky bottom is found at this bar it should be blasted and removed, so as to give a uniform depth to the whole approach. Fourth, the channel between the right bank of the river and Bolton Island should be blocked up at (d). Fifth, a jetty from Pottinger Island at (e) to the head of the Second Bar Bank in midstream so as to cut off the current at the left side of the river and to increase the velocity in the middle channel. Sixth, a jetty from the right shore at (f) about midway between Danes Island and the Second Bar, should be built to the head of the Midstream Shoal so as to cut off the current at the right side of the river. And seventh, another jetty from the lower point of Davids Island at (g) to midstream opposite to the end of jetty (f). Jetties (g) and (f) will concentrate the current of the upper Pearl River while at the same time Jetty (g) will also turn the East River current into the same direction as that of the Pearl River. (See Map II).

By these seven jetties, the current between Whampoa and Fumen could be controlled and the bottom of the river flushed to a depth of 40-ft. or more, thus creating a thoroughfare for ocean-going steamers from the open sea right up to the city of Canton. These jetties taken together will be not more than 5 miles in length and mostly in very shallow water. After the building of these jetties, land will be rapidly formed between jetties along both sides of the channel by natural process. The reclaimed land alone will be quite enough to pay the expenses of constructing these jetties, aside from the fact that the main object of regulating the river and opening up a deep channel for ocean transportation will have been realized.

Making a World Port of Canton City

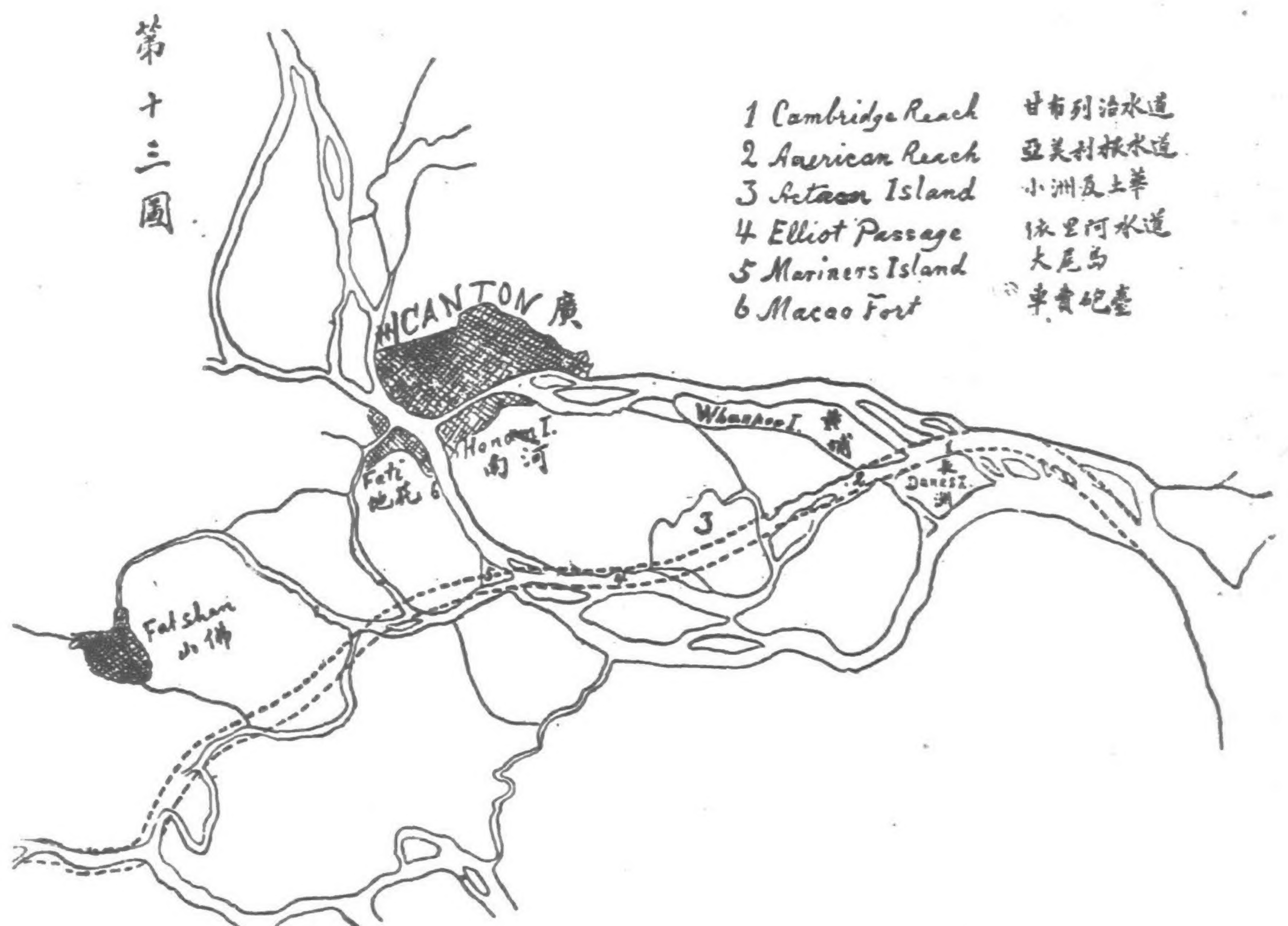
Having dealt with the approach to Canton, we may now take up the improvement of Canton City itself as a world port. The harbor limit of Canton will be at the First Bar. From there, the harbor will follow the deep water of Cambridge Reach and the water between Whampoa and Danes Island into American Reach. At this point it will cut through Actacon Island to the south of Honam Island and follow the Elliot Passage to Mariners Island. From Mariners Island following the Fatshan Creek, a straight channel should be cut in a southwesterly direction to the Tamchow Channel. Thus, a new waterway will be made from the First Bar to Tamchow Channel, a distance of about 25 miles. This waterway will be the main outlet of the North River as well as a thoroughfare for the West River, and will also serve as the harbor of Canton. By conveying all the water of the North River and a part of that of the West River through this waterway, the current will be strong enough to flush the harbor to a depth of 40-ft. or more. (See Map III).

The new city of Canton will be extended from Whampoa to Fatshan, separated by the Macao Fort and Shameen Reaches.

The section that lies east of this water should be developed into commercial quarters and that west of it into factory quarters. The factory section should be transected by canals connecting with the Fati and Fatshan creeks so as to give cheap transportation facilities to every factory. In the commercial section, tidal wharves with modern plants and warehouses should be provided. A bund should be built from the First Bar Island along the north side of the new waterway, the west side of Honam to connect with the bund of Shameen, and the northwestern side of Canton city. Another bund should be built from above Fati along the east side of Fati Island to Mariners Island thence turning southwest along the left bank of the new waterway. The Front Reach, that is, the river between the present Canton city and Honam Island should be filled up from the upper point of Honam to Whampoa for city building.

In regard to the question of remuneration, the development of Canton as a world port will be the most profitable undertaking of the kind in the International Development Scheme. Because, besides its commanding position as a commercial metropolis and its possession of advantageous facilities as a manufacturing centre of South China, a modern residential city is in great demand in this part of the country. The well-to-do people and merchants of this rich delta as well as those retired Chinese merchants and millionaires abroad all over the world are very eager to spend their remaining days at home. But owing to the lack of modern conveniences and comforts they reluctantly remain in foreign countries. Thus to build a new city with modern equipments for residential purposes alone, in Canton, would pay splendidly. The land outside of Canton is at present about 200 dollars a *mow*. If the land marked off for the future city of Canton should be taken up by the State on the same basis as elsewhere in this International Development Scheme, immediately after the streets are laid out and improvements made, the price of land would rise from 10-50 times its original value.

The landscape of the environment of Canton is exceptionally beautiful and charming. It is an ideal place for planning a garden city with attractive parks. The location of the city of Canton resembles that of Nanking but is of greater magnitude and beauty. It possesses the three natural elements—deep water, high mountains, and vast extent of level land which furnish facilities for an industrial and commercial centre and provide as well natural scenery for the enjoyment of men. The beautiful



MAP III

valleys and hills of the northern shore of the Pearl River could be laid out for ideal winter resorts and the high mountain tops could be utilized for summer resorts.

Within the city limits at the northwest corner, a rich coal field has been found. When the coal is mined and modern plants for generating electricity and producing gas are provided, then cheap electricity and gas could be had for transportation, for manufacturing, for lighting, heating, and cooking purposes. And so the present wasteful methods of transportation, and expensive fuels for manufacturing and cooking for the populous city of Canton can be done away with entirely. Thus the great economic wonders could be wrought by such improvements. The present population of Canton is over a million and if our development plan is carried out, this city would grow in leaps and bounds within a very short time. The population will become greater than any other city and the profit of our undertaking will become correspondingly large.

Part II.—The Improvement of the Waterway System of Canton

The most important waterway system in South China is the Canton system. Besides this the others are not of much importance and will be dealt with elsewhere with their ports. In dealing with the Canton system of waterways, I have to divide it as follows:—

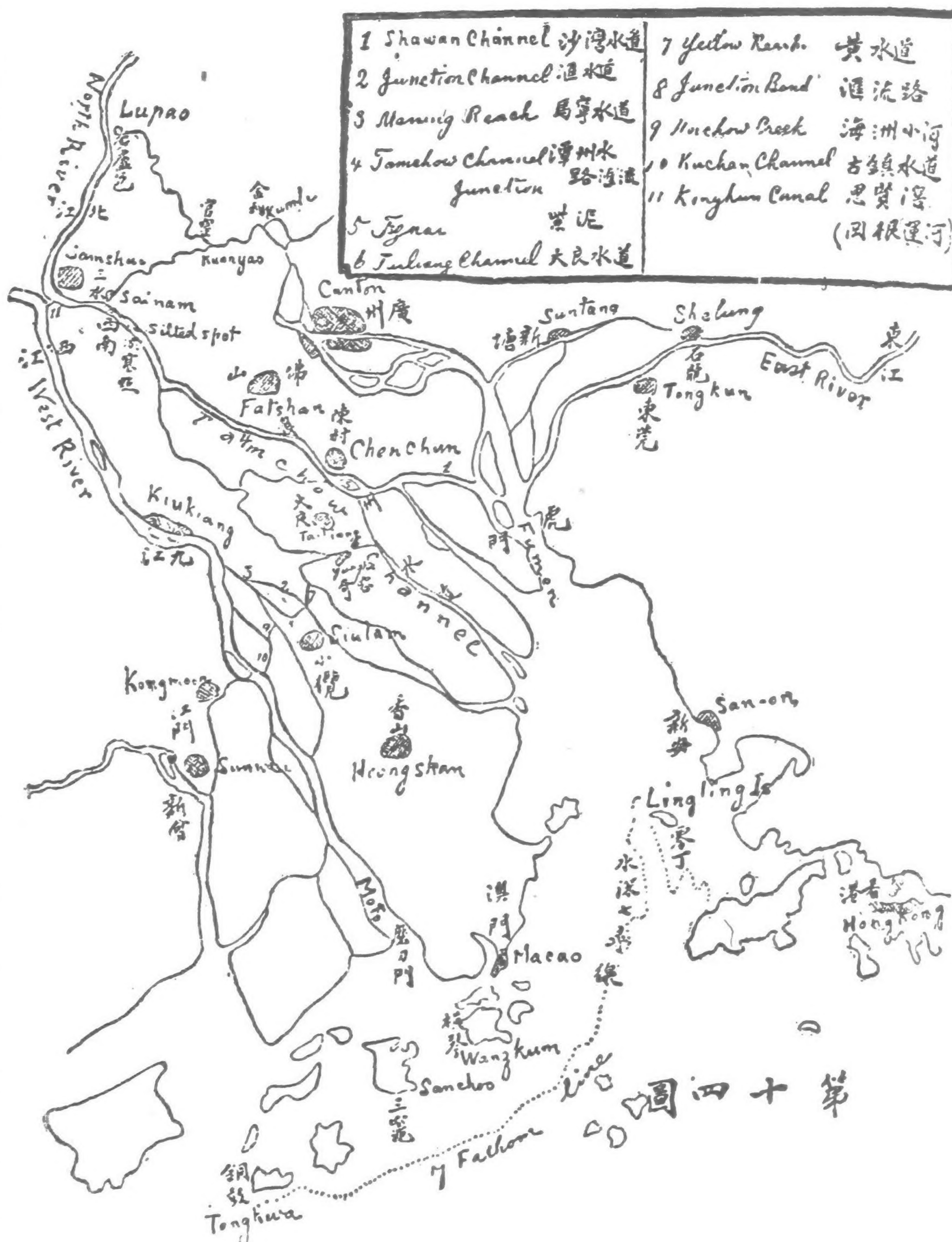
- (a) The Canton Delta.
- (b) The West River.
- (c) The North River.
- (d) The East River.

(a) To improve the Canton Delta we have to consider the proposition from three points of view: First, the problem of flood prevention; second, the problem of navigation; and third, the problem of reclamation. Each of these problems affects the others so the solution of one will help that of the others.

First, the problem of flood prevention. The frequent repetition of floods in recent years has wrought great disasters to the people in the neighborhood of Canton. It has destroyed lives by the thousands and property by the millions. The part which suffers most is the country between Canton and Lupao, lying just immediately north of the Canton Delta. This fatal spot is, I think, created by the silting up of the main outlet of the North River immediately below Sainam. On account of this, the North River has to find its outlets through the West River by the short canal at Samshui and through two small streams one from Sainam, and another from Lupao. The former runs in a northeasterly direction and the latter in a southeasterly direction and they join at Kuanyao. From this point, the river takes a northeasterly course as far as Kumli, thence, turning southeast, passes the west suburb of Canton. Since the North River is silted up below Sainam, its channel above that spot is also getting shallower every year. At present the river above Samshui

city is only about 4 or 5-ft. deep. When the North River rises its water generally finds its way into the West River through the Kongkun Canal. But if the West River should rise at the same time, then there would be no outlet for the North River and its water would accumulate until it overflows its dykes above and below Lupao. This would naturally cause the dykes to break at some point and allow the water to rush out and flood the whole country that is meant to be protected by these dykes. The remedy for the North River is to reopen the main outlet below Sainam and have the whole channel dredged deep from Tsingyuen to the sea. Fortunately, in our improvement of the navigation of the Canton Delta, we have to do the same thing; so this one work will serve two purposes.

The remedy for the West River is that the shallow part just at its junction with the sea between Wangkum and Sanchoo islands should be trained by walls on both sides—a long one on the left, and a short one on the right—so as to concentrate the current to cut the river bed here to a depth of 20-ft. or more. In this way, a uniform depth is secured, for after passing the Moto Entrance the West River has an average depth of 20 to



MAP IV

30-ft. right along its whole course through this delta. With a uniform depth all the way to the sea, the undercurrent will run quicker and drain off the flood water more rapidly. Besides the deepening process, both shores should be regulated so as to give a uniform width to the channel. Midstream shoals and islands should be removed.

The East River Valley does not suffer so severely from floods as those of the other two rivers, the West and the North, and its remedy will be provided in the regulation of the river for navigation. This will be dealt with in that connection.

Second, the problem of navigation in the Canton Delta in connection with the three rivers. In dealing with this question we commence with the West River. In former days the traffic between the West River Valley and Canton always passed through Fatshan and Samshui, a distance of about 35 miles. But since the silting up of the Fatshan Channel below Sainam, the traffic has to take a great detour by descending the Pearl River southward as far as Fumen, then turn northwest into the Shawan Channel, then southwest into the Tamchow Channel and then west into the Tailing Channel and south into the Junction Channel and Maning Reach. Here it enters into the West River and runs a northwesterly direction up to Samshui Junction on this river. The whole journey covers a distance of about 95 miles, which compared with the old route is longer by 60 miles. The traffic between Canton and the West River Valley is very great. At present there are many thousands of steam launches plying between Canton city and the outlying districts, and more than half of that number are carrying traffic to and fro on the West River. Every boat has to run 95 miles on each trip whereas if the channel between Samshui and Canton is improved, the distance would be only 35 miles. What a great saving it will be!

In our project to improve the Canton Approach and Harbor, I suggested the training of a deep channel from the sea to Whampoa and from Whampoa to Tamchow Channel. We now have to prolong this channel from its Tamchow Junction up to Samshui Junction on the West River. This channel should be made at least 20-ft. deep so as to join the deeper water of the West River above the Samshui Junction. And the same depth should be maintained in the North River itself some distance above Samshui, so as to give facility for the navigation of larger vessels up the river when the whole waterway is improved.

To improve the East River for navigation in the Canton Delta we should concentrate the current of its estuaries into one single outlet by using the right channel which joins the Pearl River at Davids Island, thus deepening the channel as well as shortening the distance between Canton and the East River districts when the upper part of the river is improved.

Another improvement in the Canton Delta for navigation is the opening of a straight canal between Canton city and Kongmoon so as to shorten the passage of the heavy traffic between this metropolis and the Szeyap districts. This canal should begin by straightening the Chanchuan Creek south of Canton as far as Tsznai. Then crossing the Tamchow Channel it should enter into the Shuntuck Creek and follow this creek to its end emerging into the Shuntuck Branch at right angles. From there, a new canal must be cut straight to the turn of the Tailing Channel near Yungki, then the canal should follow this channel through Yellow Reach as far as the Junction Bend. Here another new canal must be cut through to the Hoichow Creek, then it should follow Kuchan Channel to the main channel of the West River, and crossing it enter into the Kongmoon Branch. Thus, a straight canal can be formed between Canton Kongmoon. In order to understand the improvement of the Canton Delta more clearly see Maps IV and V.

Third, the problem of reclamation. A very profitable undertaking in the Canton Delta is the reclamation of new land. This process has been going on for centuries. Many thousands of acres of new land are thus being added to cultivation from year to year. But hitherto all the reclamation has been effected by private enterprise only, and there are no regulations for it. So sometimes this private enterprise causes great detriment to

public welfare such as blocking up navigable channels and causing floods. A glaring case is the reclamation work just above the Moto Island, which blocks more than half of the Main Channel of the West River. In the regulation of the West River, I propose to cut this new land away. In order to protect the public welfare, the reclamation work in this Delta must be taken up by the State and the profits must go to defray the expenses of improving this waterway system for navigation, as well as for the prevention of floods. At present, the area that can be gradually reclaimed is great in extent. On the left side of the Canton Estuary, the available area is about 40 square miles, and on the right side, about 140 square miles. On the estuaries of the West River from Macao to Tongkwa Island, there is an available area of about 200 square miles. Of the three hundred eighty square miles, about one-fourth would be ready for reclamation within the next ten years. That is to say, about 95 square miles could be reclaimed and put to cultivation within a decade. As one square mile contains 640 acres and one acre six *mow*, so 95 square miles will equal to 364,800 *mow*. As cultivated land in this part of China generally costs more than fifty dollars a *mow*, so, if fifty dollars be taken as the average rate, the value of these 364,800 *mow* would amount to \$18,240,000. This will help a great deal to defray the expenses of improving the waterway for navigation and for preventing floods in this Delta.

(b) THE WEST RIVER.

The West River is at present navigable for comparatively large river steamers up to Wuchow, a distance of 220 miles by water from Canton, and for small steamers up to Nanning, a distance of 500 miles from Canton, at all seasons. As for small crafts, the West River is navigable in most of its branches, west to the Yunnan frontier, north to Kweichow, northeast to Hunan and the Yangtze Valley by the Shingan Canal.



MAP V

In improving the West River for navigation I shall divide the work into subsections as follows:—

- (1) From Samshui to Wuchow.
- (2) From Wuchow to the junction of the Liukiang.
- (3) Kweikiang or the North Branch of the West River from Wuchow to Kweilin and beyond.
- (4) The South Branch from Shunchow to Nanning.

(1) From Samshui to Wuchow. This part of the West River is generally deep and does not need much improvement for vessels up to ten-foot draught excepting at a few points. The midstream rocks should be blasted and removed and sand banks and dilating parts should be regulated by submerged dykes to secure a uniform channel and to make the velocity of the current even, so that a stable fairway could be maintained all the year round. The traffic of this river would be sufficiently great to pay for all the improvements which we propose to make.

(2) From Wuchow to the Junction of Liukiang. At this junction, a river port should be built to connect the deep navigation from the sea and the shallow navigation of Hungshui Kiang and the Liukiang which penetrate the rich mineral districts of Northwest Kwangsi and Southwest Kweichow. This port will be about fifty miles from Shunchow which is the junction of the Nanning branch of the river. So here we have only to improve a distance of fifty miles, for the improvement of the river between Shunchow and Wuchow will be included in the plan for the Nanning Port. Dams and locks would be necessary to make this part of the river navigable for ten-foot draught vessels. But these dams at the same time would serve the purpose of producing water power.

(3) Kweikiang or the North Branch of the West River from Wuchow to Kweilin and beyond. The improvement of Kweikiang is more difficult for, as Kweikiang is smaller, shallower and has more rapids along its course, its improvement will be more difficult than that of the other parts of the waterway. But this will be a very profitable proposition in this Southern waterway project, for this river not only serves the purpose of transportation in this rich territory but will serve as a passage for through traffic between the Yangtze and the West River valleys. The improvement should commence from the junction at Wuchow up to Kweilin, and thence upward to the Shingan canal, then downward to the Shang River, and thereby connecting with the Yangtzekiang. A series of dams and locks should be built for vessels to ascend to the interwater shed canal and another series should descend on the other side. The expenses of building these two series of dams and locks could not be estimated until accurate surveys are made. But I am sure this project will be a paying one.

(4) From Shanchow to Nanning. This portion of the Yuhkiang is navigable for small steamers up to Nanning, the centre of commerce in South Kwangsi. From Nanning small crafts can navigate through the Yuhkiang as far as the east border of Yunnan, and through Tsokiang as far as the north border of Tongking. If this waterway be improved up to Nanning, then it would be the nearest deep river port for the rich mineral districts of the whole southwest corner of China, which includes the whole province of Yunnan, a greater part of Kweichow and half of Kwangsi. The immediate neighborhood of Nanning is also very rich in minerals, such as antimony, tin, iron, coal and also in agricultural products. So to make Nanning the head of a deep water communication system will be a paying proposition. To improve the waterway up to Nanning, a few dams and locks along its course will have to be built for vessels of ten-foot draught to go up as well as for water power. The expense for this work cannot be estimated without detailed surveys but it would probably be much less than the improvement of Kweikiang from Wuchow to the Shingan Canal.

(c) THE NORTH RIVER.

The North River from Samshui to Shiuchow is about 140 miles long. The greater part of its course is confined in the hilly districts, but after it emerges out of the Tsingyuen Gorge it comes in to a wide, open country, which connects with the plain

of Canton. Here the dangerous floods occur most often. Since the silting up of its proper outlet below Sainam, the North River from that point up to the gorge has become shallower every year, so the dykes at the left side, that is, on the side of the plain, often break thus causing the inundation of the whole plain above Canton. Thus the regulating of the river at this part has two aspects to be considered: First, the prevention of floods and second, the improvement for navigation. In dealing with the first aspect nothing could be better than deepening the river by dredging. In the improvement of the Canton Approach and Harbor and also of the Canton Delta, we have to cut a deep channel right from the deep sea up to Sainam. In the improvement of the lower part of the North River, we have simply to continue the cutting process higher up until we have a deep channel, say 15 to 20-ft. as far as the Tsingyuen Gorge, either by artificial or natural means. By this deepening of the bottom of the river, the present height of the dikes will be quite enough to protect the plains from being flooded.

In dealing with the second aspect, as we have already deepened the part of the river from Sainam to the Tsingyuen Gorge for flood prevention, we have at the same time solved the navigation question. It has now only the upper part to be dealt with. I propose to make this river navigable up to Shiuchow, the centre of commerce as well as the centre of the coal and iron fields of Northern Kwangtung. To improve the part above the gorge for navigation, dams and locks should be built in one or two places before a ten-foot draught vessel can ascend up to that point. Although this river is parallel with the Hankow-Canton Railway, yet if the coal and iron fields of Shiuchow are properly developed, a deep waterway will still be needed for cheap transportation of such heavy freight as iron and coal to the coast. So to build dams for water power and to construct locks for navigation in this river will be a profitable undertaking as well as a necessary condition for the development of this part of the country.

(d) THE EAST RIVER.

The East River is navigable for shallow crafts up to Laolung Sze, a distance of about 170 miles from the estuary at the lower point of Davids Island near Whampoa. Along its upper course, rich iron and coal deposits are found. Iron has been mined here since time immemorial. At present most of the utensils used in this province are manufactured from the iron mined. So to make a deep navigable waterway up to these iron and coal fields will be most remunerative.

To improve the East River for navigation as well as for flood prevention, I propose to start the work at the lower point of Davids Island as stated in the improvement of the Canton Approach. From here, a deep channel should be dredged up to Suntang, and a mile above that point a new channel should be opened in the direction of Tungkun city, by connecting the various arms of water between these two places and joining the left branch of the East River immediately above Tungkun city. All other channels leading from this new channel to the Pearl River should be closed up to normal water level so as to make these closed-up channels serve as flood outlets in rainy seasons. Thus by blocking up the rest of the estuaries of the East River, all the water would form one strong current which will dredge the river bottom deeper, and maintain the depth permanently. The body of the river should be trained to a uniform width right along its course up to tidal point, and above this point, the river should be narrowed in proportion to its volume of water. Thus the whole river would dredge itself deep far up above Waichow city. The railway bridge at the south side of Shelung should be made a turning bridge so as to permit large steamers to pass through it. Some sharp turns of the river should be reduced to gentle curves and mid-stream obstacles should be removed. The portion of the river above Waichow should be provided with dams and locks so as to enable ten-foot draught vessels to ascend as near as possible to the iron and coal fields in the valley.

Part III.—The Construction of the Southwestern Railway System will be published in next issue.—Ed

Iron Production in China and its Outlook

THE fact that China is known to be rich in natural resources has led many people to look with complacency and equanimity upon the question of iron production in this country. Indeed the mines, for example, are still undeveloped and China's wealth is only potential, not actual.



A blast furnace at Penchiu, Manchuria, with triple heating stoves on left

But, say these easy-chair prophets, the Republic can afford to wait, for sooner or later all of its vast resources will be tapped, opened as well as developed, and then we will behold the halcyon days of overflowing prosperity. All this patting oneself on the back, however, is far from reassuring to those who are really in the know of things; for, as a matter of fact, except in the possible exception of coal, China's supply of valuable minerals is by no means inexhaustible. This is conspicuously illustrated in the case of iron and steel.

According to the International Geological Congress, 1910, and the latest researches of the American Mining Engineers Association, the world's present as well as future supply of iron is distributed as follows (*the figures are all in million tons*):—

Country	Present		Future	
	Ore	Amount of Iron	Ore	Amount of Iron
U.S.A.	4,258	2,305	75,105	37,222
Newfoundland	3,635	1,961	Very rich	Very rich
Mexico	55	30	Very rich	Very rich
Cuba	1,903	857	1,007	454
Brazil	3,500	2,275	Very rich	Very rich
France	3,300	1,140	Unknown	Unknown
Luxemburg	270	90	Unknown	Unknown
Germany	3,608	1,270	Unknown	Unknown
Belgium	62	25	Unknown	Unknown
England	1,300	455	37,700	10,830
Russia	864	387	1,056	425
Finland	Unknown	Unknown	45	16
Sweden	1,158	740	178	105
Norway	367	124	1,545	524
Greece	100	45	Unknown	Unknown
Austria-Hungary	284	103	424	142
Switzerland	16	1	2	1
Italy	6	3	2	1
Spain	711	349	Very rich	Very rich
Portugal	Unknown	Unknown	75	39
China	500	230	Very rich	Very rich
Japan	64	32	Unknown	Unknown
Korea	110	55	Unknown	Unknown
Australia	136	74	69	37
Africa	125	75	Very rich	Very rich
Total	26,332	12,626	Most rich:	

If we take in round numbers the present ore supply of the whole world as 12,900,000,000 tons and the annual output in recent years as 80,000,000 tons, then the supply ought to last at

least 160 years. But with increased methods of extracting the ore which are bound to result from improved scientific processes, and especially as the future supply is most rich, there ought to be no difficulty in drawing upon such supply for several thousand years. For example, the annual output in China is 1,000,000 tons or only 1/500th of its present estimated supply, whereas the production in Japan is also 1,000,000 tons but corresponding to one-sixtieth of its supply.

In other words, the production in this country is to-day still a relatively unimportant factor, being equivalent to less than one-fiftieth of the world's total annual output. On the one hand the ore produced by the native-worked mines in Shansi, Hunan, and Szechuan, etc., is generally considered as of inferior grade by foreign experts; and on the other hand the mines in Shensi, Kansu, and Sinkiang, though still unexplored, can hardly count at present, however rich in superior grade ore they may be, for the simple reason that they are so inaccessible by the lack of good communications. Therefore, at best China's production is on a par with that of Austria-Hungary or Spain, but is certainly a long way behind that of Europe or the United States.

Iron has been mined for centuries in China, and even in ancient times the industry was looked upon as an important source of revenue to the national treasury, this of course entailing the necessary appointment of officials to exercise supervision, etc. The most reliable historical records give the following interesting data:

Dynasty	A.D. Date	Annual Output in Cattles.	Annual Output in Tons.
T'ang	806	2,070,000	1,232
T'ang	847-859	532,000	317
Sung	1049-1053	7,241,000	4,310
Sung	1078	5,501,097	3,274
Sung	1166	880,300	524
Yuan	1328	884,563	527
Ming	1373	7,460,000	4,011

Thus, according to the ancient records, the annual production never exceeded 5,000 tons. This total seems hardly complete or exhaustive, considering that the native-worked mines which to-day employ practically the same primitive methods as before, can now produce an annual turnover of almost 180,000 tons. At any rate, modern methods were not introduced until 1896 (the 22nd year of Kuanghsü) when modern furnaces were installed at the Hanyang Iron Works. In 1915 (the 4th year of the Republic) the Penhsihu Company, in Fengtien province, was established, and these two combined now turn out approximately 200,000 tons a year. The following represent the latest available returns for the various provinces. They are translated



A near view of the base of the blast furnace at Penchiu, Manchuria, showing pig iron casting beds in foreground

from a recent number of the "Journal of the Ministry of Agriculture and Commerce," Peking:—

Province.	Ore.	Cast Iron.	Steel.
Fengtien*	76,843 tons	50,911 tons	Nil
Honan	30,500 "	14,400 "	"
Shansi	212,570 "	70,000 "	"
Anhui	6,100 "	2,590 "	"
Kiangsi	4,470 "	1,420 "	"
Fukien	5,540 "	2,600 "	"
Chekiang	320 "	110 "	"
Hupent†	551,289 "	136,650 "	55,850
Hunan	106,200 "	35,000 "	Nil
Shensi	3,750 "	1,250 "	"
Kansu	1,200 "	400 "	"
Sinkiang	500 "	170 "	"
Szechuan	71,150 "	23,720 "	"
Kwangtung	1,050 "	550 "	"
Kuangsai	3,200 "	1,000 "	"
Yunnan	27,800 "	9,260 "	"
Kueichow	18,060 "	6,020 "	"
Total	1,126,942 "	355,891 "	55,850

It is estimated that of the country's entire output over 450,000 tons of ore contain iron, one-third of this may be assigned to the mines worked by old, native methods, another third to those worked by modern improved methods, the rest to that portion which is exported to Japan to be refined.

The outlook of production in this country may be gauged from an understanding of several important factors. First and foremost, of course, is the output of the Hanyehping Company. In regard to this concern, it will be remembered, the Chinese Government agreed in 1915, as a result of the Japanese Twenty-one Demands and consequent ultimatum that it would not confiscate the said company, nor, without the consent of the Japanese capitalists, convert it into a state enterprise, nor cause it to borrow or use foreign capital other than Japanese. In 1917 the Ta-yeh mines produced over 630,000 tons. Of this total 60 per cent. contained ore of which 280,000 tons were smelted by the Hanyang Iron Works and 320,000 tons were exported to Japan. The last was in accordance with the agreement concluded in 1913, which provided that for a period of 40 years (namely from 1914 to 1953) the Hanyehping Company would sell a total of 15,000,000 tons of first-class ore to Japanese ironworks, exclusive of quantities already contracted for. Beginning with 1919 it was understood that this quantity was to be increased by 50,000 tons until the annual turnover would reach 500,000 tons.

The Hanyang Iron Works has at present two old-pattern furnaces, each of which is capable of turning out 100 tons of pig iron a day and two new smelting furnaces the capacity of each being 200 to 250 tons of pig iron a day. In 1917 the Works smelted over 149,800 tons of pig iron. Of this amount 60,000 odd tons went to Japan, 14,000 tons were consumed in the country, and the rest were transferred to be wrought into steel.

* In 1916 the output at Penchiu was 71,373 tons of ore and 49,211 tons of iron.

† In 1915 the output at Tayeh was 549,789 tons ore; that of Hanyang Iron Works was 135,781 tons iron, and 295,484 tons ore exported.

The steel-making department has six Siemens-Martin furnaces, each capable of producing 30 tons a day. In 1917 the steel output was approximately 60,000 tons.

The Ta-yeh Iron Works have recently put up two new smelting furnaces, each with a capacity of 450 tons a day, or an aggregate of 280,000 odd tons of cast iron a year. According to the above contract of 1913 the Works would have to supply, within forty years, a total of 8,000,000 tons. In 1917 a new agreement was entered into, creating a joint Sino-Japanese Steel Works located in Kiushiu, and the Hanyehping Company was to supply 60,000 tons of cast iron a year. The scheme, however, was to be enforced only after the above-mentioned new furnaces had been installed at Tayeh.

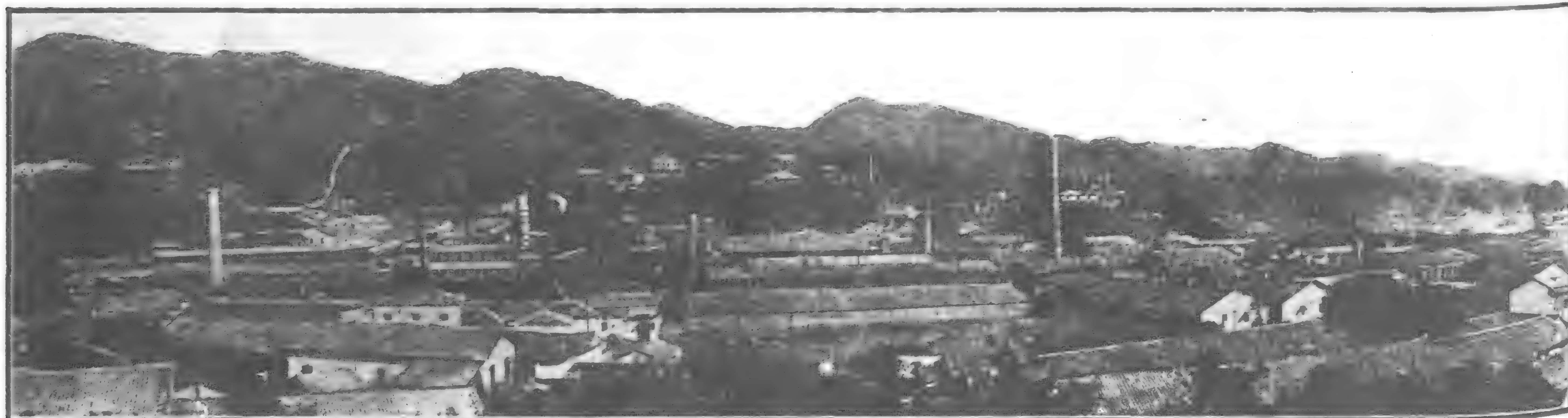
The Penchiu Company is a joint Sino-Japanese enterprise. Promoted by Okura & Company, it operates the iron mines in Miaokou, Fengtien province. The first smelting furnace was put up in 1915, and the following year it produced over 70,000 tons of ore and about 50,000 tons of cast iron. The second furnace was installed at the end of 1916. Each furnace is capable of turning out 150 tons a day. Late in 1918 it was decided to put up a smaller furnace capable of turning out only 20 tons a day, so that the output might total 100,000 tons a year.

The majority of its production, of course, always goes to Japan. In addition this company also gathers together the poorer ore and sends it to Japan for improvement.

A direct result of the 1915 Japanese Twenty-one Demands is the establishment of the Chenhsing (or Development) Company, another joint Sino-Japanese undertaking. Promoted by the South Manchuria Railway Administration, it operates the iron mines in the Liaoyang and Anshanchan region. (These places were specifically designated in the third exchange of notes respecting mining areas and attached to the second 1915 treaty relating to South Manchuria and Eastern Inner Mongolia). It now has two furnaces, each capable of turning out 250 tons of pig iron a day. It is understood that schemes are under way to instal also a steel plant so as to produce 130,000 tons of steel a year, and as a result of various other improvements it is hoped to increase the output to 800,000 tons of pig iron a year.

The Chinglingchen iron mine is situated in Shantung. According to the Kiaochow Convention, 1898, and the agreement in 1909 for the redemption of foreign mining rights in Shantung, this mine should have been worked by the Sino-German Mining Company and the capital therefor subscribed jointly by Chinese and German merchants. After the allied capture of Tsingtau in November, 1914, it was worked by Japanese, and its output is now reputed to be 200,000 tons a year. Since the cancellation, however, of all German rights and abrogation of German treaties consequent upon the declaration of war between China and Germany this mine, like the Kiaochow-Tsinan Railway, has also *ipso facto* reverted to China. So the future disposal of this mine should be a matter of adjustment between China and Japan when Kiaochow is retroceded and the Kiaochow-Tsinan Railway, etc., is restored to the Republic.

In recent years there are not a few iron mines which are being worked by Chinese merchants, but none of these can produce any steel, although extensive plans are said to be under consideration. Of those which are in actual operation, *e.g.*, the



Panorama of the Pinghsiang Colliery of the Han-Yeh-Ping Coal and Iron Company

Lung-yen mines, near Kalgan, in Chihli Province, as well as those in Shansi, Honan, Kiangsu, Anhui, and Kiangsi, etc.—many are contemplating installing large smelting furnaces. Others are putting up smaller furnaces for refining the ore dust which is specially bought for the purpose. For example, the Woo Shing Company, of Shanghai, buys the ore dust from the Pao Hsing Company of Tang-t'u (Anhui). It has one furnace which smelts from eight to ten tons a day. Started in June, 1918, it contemplates putting up another furnace of 30 tons capacity.

In addition to contracting to supply iron ore, etc., there are also those which contract to supply ore dust in stipulated quantities. The Yu Fan Company, of Fan-ch'ang (Anhui), agreed in 1915 with the Sino-Japanese Industrial Company to provide for forty years a daily supply of 1,000 tons of dust. Accordingly the supplying company's iron mine at T'ao-ch'ung was got ready, as also the light rail for transportation from the mine to the riverside, and delivery was to have been made some time in 1919. The other contracting party has already a foundry in Japan with two furnaces capable of smelting 250 tons a day, and these require a supply of 300,000 tons of ore a year.

The Pao Hsing Company, of Tang-t'u (Anhui), besides supplying the above-mentioned Woo Shing Company, of Shanghai, also contracted with a Japanese firm (Kao Ch'ang Kung Ssù) to supply 102,000 tons of ore from September, 1917, to July, 1919, and with another Japanese company (Ling Mu Company) to supply 32,000 tons of ore from May to August, 1919. The Fu Ming Company and the Li Ming Company, both of Tang-t'u, operating the iron mines of Hsiaokushan and Shanmienshan, also contracted with a Japanese house (Hsiao Ch'ai Shang Hui) to supply for five years a daily supply of 500 tons of ore. Finally, the Pao Hsing Company, of Ch'ang-hsing (Chêkiang)) is also under agreement to supply the above-mentioned Japanese firm of Kao Ch'ang Kung Ssù within three years a total of 300,000 tons of ore.

Now the above bargains may or may not be faithfully carried out, but their existence cannot be overlooked in one's estimate of the outlook of iron production in this country. If, therefore, we base our calculations upon what is actually being done, as well as upon the improvements decided upon, the output for six years (1918-1923), excluding that of the native-worked mines, will be as follows:—

Year.	Output of Various Iron Works.	Ore for Japan.
1918	246,000 tons	400,000 tons
1919	340,000 "	930,000 "
1920	720,000 "	1,000,000 "
1921	780,000 "	1,100,000 "
1922	870,000 "	1,150,000 "
1923	950,000 "	1,150,000 "

In other words, there is every prospect of the output of iron works in this country continually increasing. As noted, the above figures do not include the production of mines worked by primitive methods. So the grand total may well be imagined if the latter output is also included, always remembering of course that these native-worked mines will eventually adopt the

latest modern methods and appliances, etc. And, given earnestness of purpose, much can be done in six years.

That steel is an imperative need to China is only too evident. The following figures from the Maritime Customs reports show steel imports into this country from 1867 (the 6th year of T'ung-chih) to 1916 (5th year of the Republic), or a period of fifty years:—

Date.	Average per year.	Increase over previous corresponding period.	Amount of highest year during 10-year period.
1867-1876	190,999 tons	—	27,064 tons
1877-1886	52,019 "	32,919 tons	75,266 "
1887-1896	84,458 "	32,439 "	123,000 "
1897-1906	110,003 "	25,545 "	183,044 "
1907-1916	186,296 "	76,293 "	249,855 "
Average decennial increase=41,799.			

In other words, the annual increase in steel importation is roughly 4,000 tons. This cannot be considered a representative increase, for since the importation of foreign iron the output of native-worked mines has decreased considerably. Besides, since 1900 when the Hanyang Iron Works began to smelt the ore, and the establishment of the Sino-Japanese Penshihu Company, the output has materially increased. The following table illustrates the iron and steel import and export for the ten years ending with 1917:—

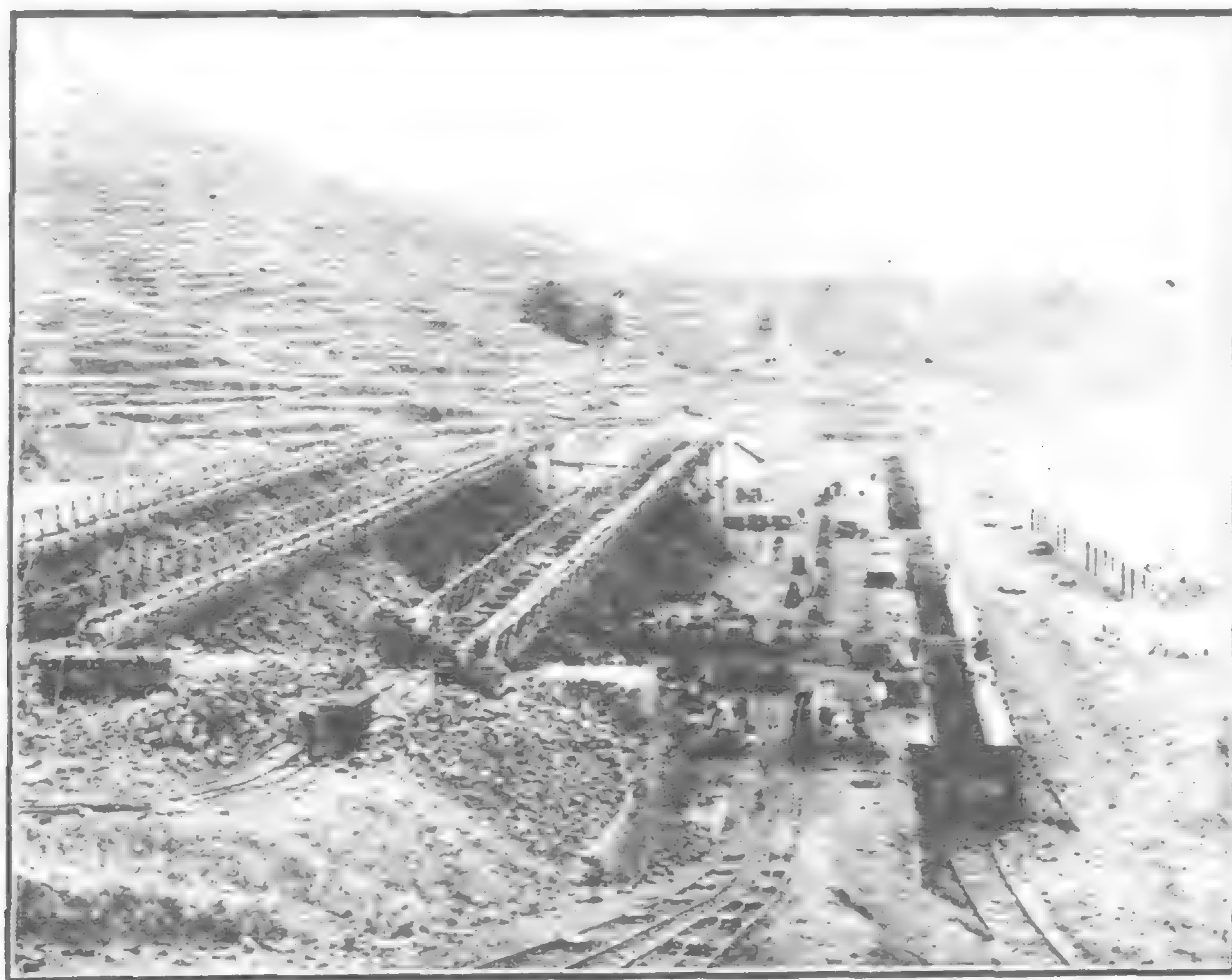
Year.	Steel Imported.	Iron Wares Exported.	Difference between Imports and Exports.	Iron Ore Exported.
1908	153,329 tons	30,408 tons	127,921 tons	131,350 tons
1909	200,530 "	38,092 "	162,438 "	87,700 "
1910	219,094 "	64,348 "	154,746 "	130,466 "
1911	195,683 "	69,792 "	125,891 "	110,521 "
1912	152,463 "	12,400 "	140,063 "	201,552 "
1913	242,854 "	64,939 "	177,915 "	269,652 "
1914	220,993 "	61,519 "	159,474 "	294,701 "
1915	130,412 "	98,628 "	31,784 "	304,088 "
1916	144,690 "	129,648 "	15,042 "	278,555 "
1917	122,289 "	161,987 "	39,698 "	304,335 "
			Export excess	

The total export is therefore about approximating that of import as the years go by if not entirely in excess. This is a remarkable phenomenon, considering that in the present state of China's industrial development her production of iron can hardly be called extravagant. That such is actually the case is perhaps accounted for by the fact that during the last few years the intermittent political unrest and disturbances have produced an atmosphere least conducive to the promotion of industry and commerce. Consequently, there was a surplus of iron for foreign markets, especially in the warring countries which could always absorb more than could be produced. Thus



General View of Hanyang Iron and Steel Works

the price of Hanyang pig iron before 1914 was Tls. 20-30 per ton, but in September, 1918, it soared to Tls. 250 per ton. Since the signing of the armistice, however, it has dropped to Tls. 130-140 per ton; now iron is worth Tls. 70-80 in Shanghai.



The Tichshan Mine at Tayeh

To mine iron is comparatively easy; but to smelt the ore is less easy, and to refine the iron into steel is still less easy. At present China exports largely pig iron as well as crude iron ware, and imports steel materials. Therefore, notwithstanding the apparent equilibrium between export and import tonnage, there is still a wide discrepancy between export and import values. The appended figures are for the same decennial period as above:—

Year.	Value of Steel Imported. Tls.	Value of Iron Exported. Tls.	Difference in the two Values. Tls. Import excess	Value of Ore Exported Tls.
1908	8,999,770	729,254	8,270,516	296,851
1909	10,742,272	932,463	9,809,809	198,236
1910	11,811,829	1,589,454	10,222,375	294,930
1911	10,720,560	1,595,973	9,124,587	249,921
1912	8,895,067	504,097	8,390,970	456,030
1913	14,752,305	1,430,528	13,321,877	609,744
1914	12,552,822	1,539,352	11,013,470	666,082
1915	9,840,259	2,814,446	7,025,813	698,128
1916	15,441,139	5,943,618	9,497,521	915,104
1917	14,806,120	6,332,198	8,473,922	1,018,479

The moral to be drawn from the above figures is, therefore, plain as daylight: China's steel industry must be quickly developed if the needs of the nation, on the one hand, are to be met, and, on the other, the demands of foreign markets are to be adequately satisfied. With the single exception of the Hanyang Iron Works, there is no other plant which can at present wrought iron into steel. The population of the Republic is generally estimated at 400,000,000, whereas the amount of steel available for consumption is only 400,000 tons. On a per capita basis this would work out at one-thousandth part of a ton per person per year. The amount of iron in China that can be mined at present is over 200,000,000 tons; on a per capita basis this would work out at one-half ton per person. By way of comparison the following table will illustrate the per capita quantity in various countries:—

Country	Per Capita Quantity of Iron Available.	Steel Consumed per Person per Year.
United States	29.2 tons	0.250 ton
Germany	18.7	0.130
England	9.9	0.130
France	31.2	0.130
Russia	2.7	0.030
Japan	0.4	0.040
China	0.5	0.001

The available quantity per capita of iron in the Republic is, therefore, none too plenty, and a great deal requires to be done if the 0.001 ton per capita basis is to be elevated to meet the nation's rapidly increasing demand for iron and steel in

developing trade and industry, etc. Consequently, there is considerable spadework yet to be done, and for this purpose the iron conditions in Japan may also be studied, since Chinese iron is fighting so largely in the annual consumption of Japan. According to an eminent Japanese expert the quantity of iron and steel required by Japan for the next ten years is as follows:—

Year	Total Iron Required	Total Steel Required	Grand Total
1918	360,900 tons	1,123,000 tons	1,483,900 tons
1920	430,000	1,123,000	1,553,000
1923	533,800	1,568,000	2,101,800
1925	617,500	1,786,000	2,403,500
1928	744,000	2,111,000	2,855,000

The above estimate of iron required refers only to iron not wanted for making steel. Nor does it include iron imported from foreign countries. If imported iron be put at 92,000 odd tons, the average of recent years, then the total iron and steel required for 1923 would be altogether 2,193,800 tons. In 1916 the total output of iron in Japan was 423,000 tons, but for 1923 the aggregate is estimated at 1,217,000 tons. Therefore, there has been a deficit of 400,000 to 500,000 tons a year in recent years, and in 1923 this deficit will increase to over 1,000,000 tons. Hence the urgent need of importation from China to fill up the gap. The following figures vouchsafed by the Japanese Ministry of Agriculture and Commerce indicate the production of iron and steel within Japan as well as its "spheres of influence," during the next few years:—

Date	Place	Pig Iron	Steel	Steel Products
1918	Japan	585,000 tons	1,150,000 tons	810,000 tons
	Korea	50,000	15,000	10,000
	Manchuria	110,000	—	—
	Total	745,000	1,165,000	820,000
1919	Japan	820,000	1,600,000	1,140,000
	Korea	100,000	50,000	40,000
	Manchuria	230,000	—	—
	Total	1,150,000	1,650,000	1,180,000
1920	Japan	960,000	1,770,000	1,260,000
	Korea	100,000	50,000	40,000
	Manchuria	250,000	20,000	20,000
	Total	1,310,000	1,840,000	1,320,000
1921	Japan	1,060,000	1,920,000	1,400,000
	Korea	100,000	50,000	40,000
	Manchuria	250,000	60,000	50,000
	Total	1,410,000	2,030,000	1,490,000
1922	Japan	1,110,000	2,000,000	1,470,000
	Korea	100,000	50,000	40,000
	Manchuria	250,000	60,000	50,000
	Total	1,460,000	2,110,000	1,560,000
1923	Japan	1,150,000	2,030,000	1,490,000
	Korea	100,000	50,000	40,000
	Manchuria	250,000	60,000	50,000
	Total	1,500,000	2,140,000	1,580,000

The production of iron and steel in Japan, therefore, shows an encouraging growth from year to year. Nevertheless, despite this growth there will still be a deficit, in 1923, of one million tons of pig iron which, as already noted, will be made good by importation from China. Of Japan's iron output in 1923 of 1,000,000 tons this country will contribute 100,000 tons of ore; and of its two million tons of steel, one-half will be manufactured from the cast iron produced in China. In other words, this country's raw material will go to make up three-fourths of the entire iron and steel produced in Japan.

It is, therefore, this aspect of the question which needs to be borne in mind in one's estimate of the outlook for iron production in China, namely the amount of ore which must be supplied to the island empire under the numerous agreements concluded between Japanese and Chinese merchants. In this connection there is also the agitation among some Sino-Japanese mines to get special exemption from the usual iron taxes, etc.

According to a Peking news agency (December 12, 1919) Mr. Lu Tsung-yu, former Chinese Minister to Japan, petitioned the Cabinet in this sense on behalf of the Lung-kuan and Yen-tung-shan iron mines, of which he is the managing director. Next to the above-mentioned Hanyehping Company this is probably the most valuable concession secured by Japanese capitalists through the medium of willing Chinese friends. These mines are situated in Hsuanhuafu, Chihli province, along the Peking-Suiyuan Railway. Started early in 1919, it is said to be already in full swing. A summary of Mr. Lu's petition is as follows:—

"Iron ore is now required by all leading Powers for military as well as commercial purposes, so it is no surprise that nearly all Western Powers have adopted a high tariff to protect their iron and steel. In view of the importance of iron and steel, the Lung Yen Iron Mining Company was organized with the sanction of the Central Government a couple of years ago. Although this Company was floated with half official and half commercial shares, yet it is an official corporation of the Chinese Republic—a fact which is known to everybody. . . Hence, in addition to the non-payment of iron royalty, the Company prays that the Government will exempt it from the payment at all times of all taxes and duties on ores and raw materials, as well as coke and coal produced by this Company, so that its business will be further developed in the future." etc., etc.



Partial View of the Pinghsiang Colliery

In view of the importance of the request a special conference of the Cabinet Ministers was held to consider the matter. As a result the Cabinet replied as follows:—

"Since the Lung Yen Iron Mining Company was formed with joint official and commercial capital, the Government is willing to assist it as much as possible. Therefore, it is hereby decided that within a radius of fifty miles from the maritime and native customs houses, the iron and steel products of the Company will be exempted from the payment of government duties and taxes. The iron ores, however, of the company are to be taxed in the same way as those of the Hanyehping Company," etc., etc.

Such decision is bound to have a far-reaching effect and soon will be quoted as a precedent by other equally interested ventures.—*Translated from Chinese official documents.*

Speaking at a meeting of the Anti-Opium Society at Peking recently Sir Francis Aglen, Inspector-General of Customs, made the startling statement that during the year 1919 there had been confiscated by the Maritime Customs on discovery during attempted smuggling, 21 tons of opium; 2 cwt. of morphia; and 1½ cwt. of cocaine, heroine and allied drugs. The quantities are simply amazing, but as Sir Francis pointed out, this is undoubtedly but an infinitesimal fraction of the quantity that succeeded in evading the ever-vigilant eye of the Maritime Customs and was actually smuggled into the country.

America Can Profit by Japan's Loss in China

According to Mohan T. Y. Zi, of Shanghai, Japan has lost 90 per cent. of her Chinese trade since the boycott on Japanese goods which started last May. Commissioner Zi, who is a delegate of the Chinese General Chamber of Commerce to the trade convention to be held in San Francisco next May, further claims that Japan had built up a volume of business with China during the war which amounted to hundreds of millions of dollars. This has been seriously damaged since the boycott. He says American cotton exports to China up to the time of America's entry into the war, approximated 10,000,000, and the great bulk of this trade fell to Japan when America could no longer attend to her exports. Japan obtained the raw material from China, converted it into cloth and returned it to China. Since the boycott this cotton market has been left practically open. He says that one of his missions to America is to try to interest American cotton exporters to re-establish their previous commercial relations with China.

He says that to the outside world the trouble between North and South may seem important, but it has no actual bearing on the mercantile and industrial life of China. He declares it is simply political.

He wishes to encourage the motor industry, as it is capable of tremendous development in China. He thinks the Chinese are partial to American motors of modern style if they can be obtained at a low price consistent with quality.

Protest Against Sino-American Mining Deal

Under the leadership of ex-Premier Hsiung Hsi-ling, and ex-Minister of Education, Fan Yuan-lien, and other prominent native gentry of Hunan, the heads of the various educational, industrial and agricultural associations in Changsha have, according to the Asiatic News Agency, just petitioned Gen. Chang Chin-yao, military governor and acting civil administrator of Hunan, with reference to the establishment of a mining ore refining factory by the American Pacific Development Corporation and the mining bureau of Hunan. According to the petition of the native gentry, the people of Hunan have no objection in view of the friendly relations between China and the United States at the present moment, but as the Shuikoushan and other mining properties belong to the province of Hunan, no official can sign any agreement for co-operation with foreigners without the previous approval of the provincial assembly at Changsha. Hence the provincial administration has been asked by the petitioners to postpone the proposed Sino-American co-operation for the establishment of the ore refinery at Changsha or any other city in Hunan until the unification of the north and the south has been effected when a properly-representative provincial assembly will be instituted at Changsha which will then accord the necessary legal rights on the Sino-American co-operation.

At the same time, the petitioners have also sent copies of this petition to the Peking government and the American Legation requesting the postponement of the agreement signed by Mr. Chung Yung-mei, director of the mining bureau with the Pacific Development Corporation some time ago by order of military governor Chang Chin-yao and it is said that an advance of two hundred thousand dollars have already been paid over to the provincial government of Hunan by the American promoters.

In connection with this affair, Gen. Chang Chin-yao has just wired to the Peking government stating that there is nothing in the agreement which may be misconstrued as infringing the rights of China or the rights of Hunan province so that the central government should telegraph to the south-western leaders and others who are concerned about it to dispel misunderstandings or misconceptions; and the enforcement of the agreement will give Hunan immense benefit.

The Proposed Abolition of Likin

The question of the abolition of the likin tax in China is again on the tapis, and in this connection the Chinese Government recently forwarded the following note to the Diplomatic Corps at Peking:—

The Chinese Government has long had in mind the question of the abolition of likin. As the question, however, concerns the annual income of the Central Government, and as the provinces depend on likin largely for their administrative expenses, it has naturally been found difficult to arrange for its abolition, unless some other reliable form of income were found to take its place. In May of last year this Ministry received from the Ministers of the Powers which had sent representatives to sign the revised tariff agreement communications stating that the matter of the levying of internal duties in China was one which was having an extremely injurious effect on the advancement of trade between China and foreign nations, and that they greatly hoped that some method might be devised for the abolition of such duties. Again on January 22nd of the present year the British Minister addressed a Note to this Ministry in which he stated:—

“The Association of British Chambers of Commerce in China at the time of the recent conference at Shanghai advocated the carrying out of the various clauses of Sections of the Commercial Treaty of the 28th year of Kuanghsu (1902), with the proviso, that before giving the necessary consent to an increase in the import duties, the various Treaty Powers should obtain from the Chinese Government satisfactory guarantees that the Government would not in future proceed to levy any other form of either direct or indirect taxation on goods, reminding the Government also of the earnest hope of every one—namely, that the Chinese Government should become united, a question which necessarily preceded any discussion of revenue collection, for the reason that without a united Government there could be no uniformity of revenue collection.”

For this advice the Chinese Government is very grateful. It has to observe that the question of arranging a method for the abolition of likin and the increasing of import duties is one which is engaging the attention at the present moment of the various departments of the Government concerned. It can be clearly stated in advance that when, in future, the time comes that likin is actually abolished and import duties are increased likin will again be levied, either directly or indirectly, in the interior of China on goods of foreign nations on which there has already been paid the increased import duty. The praiseworthy sentiment expressed by the British Minister that schemes for a uniform collection of revenue must be preceded by plans for a unified Government meets with the hearty concurrence of the Chinese Government. There are, however, at present, certain circumstances in the internal administration of China which unavoidably prevent the unification of the country by force. On the other hand, there has been in the past unity as regards foreign questions. In view, moreover, of the fact that the abolition of likin and the increasing of import duties is a national project, the Chinese Government profoundly believes that the Northern and Southern provinces cannot but act in accord in this matter—this, it is believed, can also be confidently stated in advance.

There is still another phase of the question that demands consideration:—After import duties have been increased and the Chinese Government has completely abolished likin, and it is found after due consideration of the true circumstances of the matter, that the additional import revenue is not sufficient to make up for the losses arising out of the abolition of likin, the Chinese Government cannot but make some arrangement for making up the deficit. In consideration of the fact that the Ministers of the various powers concerned agreed, at the time, that, in view of the fact that the fixing of prices of commodities under the Revised Tariff had been made during the period of the European war, last year, they were to be subject to further revision two years after the conclusion of peace, therefore the

Chinese Government considers that before the procedure now in contemplation for the increasing of import duties and the abolition of likin has actually been put into force it should request the various foreign Powers concerned to take part in a prior revision of the import tariff to make the listed values of commodities correspond with actual values, and to raise an income sufficient, also, to compensate for the loss due to the abolition of likin.

In view of the foregoing considerations, the Chinese Government expresses the hope that the Powers concerned will carry out the arrangement above proposed, so that the friendly relations of the several nations with China may be strengthened. This Ministry has the honor to bring to your notice the fact of the Chinese Government's intention to proceed at once with the increasing of import duties and the abolition of likin, and has the honor to request that you inform your respective Governments accordingly.

Correspondence

PEKING, March 13, 1920.

TO THE FAR EASTERN REVIEW,
SHANGHAI.

Since there has been a reversal in the FAR EASTERN REVIEW's policy, made apparent by the Publisher's recent contributions, such associations with the paper as the undersigned has enjoyed are anything but a distinction. The antagonism which the Publisher's contributions have aroused in the Far East is, with good reason, so intense that it extends to all who are known to have any connection with the REVIEW. Since the undersigned, who has been a regular contributor for more than three years and who has acted in an editorial capacity at times, has no more sympathy with the Publisher's new political creed than the general public has, he wishes to disassociate himself completely from a paper which publishes such dangerous and misleading editorial matter, and to announce that he will contribute nothing further to the REVIEW under any circumstances.

RODNEY GILBERT.

Impatience Useless in the China Market

Mr. Ralph Dawson, Vice-President of the Asia Banking Corporation, who recently returned to the United States after spending over a year in the Far East, opened the eyes of many firms as to trade possibilities in the East and how to make the most of them. There can be little question that the average American is impatient to reap the fruit of his labors, and, obviously, from what Mr. Dawson said, this has been against the American salesman newly arrived in China. We have all learnt from our school-days that the Chinese are extremely phlegmatic, and in recent years we have also been taught how averse they are to purchasing new “chops” so long as oldtime goods are available.

As regards the selling policy of American exporters, generally speaking, the establishing and operating of one's own organization offers the greatest promise of substantial success in the Chinese field. In fact, all the outstanding successes among foreign concerns in China have pursued this policy. It is a mistaken idea that only big firms can afford to have their own selling organizations in China. The thing to do is to make a start toward the establishment of a selling organization. Remember that the big, rich Chinese market cannot be rushed. Select a man with good personality, preferably a man who has had experience in the Chinese market. Let him form the basis of your organization in the Orient; let him be of the type that prefers slow growth to meteoric, but uncertain, success. Such a man will automatically build up his selling organization with men who will carry out his ideas. I should say that the finest selling organizations in China, in the future, can be formed from the youth of America—alert, sturdy, courageous young men, with vision, intelligence and the highest degree of stick-to-it-iveness.

The reason one's own organization in China is the most successful is because the business is always under one's own control. A foreign selling agency, whatever its loyalty, may possibly give the preference to one of its own countrymen. With self-organization you control your business always, and furthermore, gain valuable experience as you go along, instead of leaving everything to the agent.

It is vitally necessary that the future witness the development of a perfect co-ordination between the financial and the commercial organizations of America with reference to Chinese trade, and at the back of these efforts must stand a well-defined policy of the Government with respect to American enterprises in China.

Mineral Production in China

By Frank Rhea, U.S. Trade Commissioner

Coal

CHINA, no doubt, has very large, varied, and valuable coal resources, but it is difficult to obtain definite data concerning them. The Japanese have thoroughly proved the fields they control in South Manchuria, at Fushun, Yentai, and Penchiu. The Fushun field on the Fushun Branch of the South Manchuria Railway, 236 miles north of Dairen, contains about 800,000,000 long tons and carries a high percentage of nitrogen, and there is a very complete Mond gas plant, producing a considerable amount of ammonia. The Yentai field near the main line of the South Manchuria Railway, about 225 miles north of Dairen, contains a much smaller quantity of steaming coal. These two fields are controlled by the South Manchuria Railway and are both equipped with modern apparatus; with a total of approximately 20,000 employees, they are now producing about 2,225,000 tons a year.

The Penchiu field, 47 miles from Mukden on the Antung Branch of the South Manchuria Railway, while limited as to quantity, contains some very good coking coal. This is of much importance to the Japanese interests in connection with the two 150-ton iron furnaces at Penchiu, the two new 250-ton furnaces of the South Manchuria Railway at Anshan, about 190 miles north of Dairen, and the new iron plant at Pingyang on the Korean Railways in Korea. The coal, iron-ore, and limestone deposits and the iron furnaces at Penchiu are controlled by the Okura Co., of Japan, and the present coal production is about 300,000 long tons a year.

The only other instance in which the writer was able to see data proving the quantity and quality of the coal was that of the Kaiping field, controlled by the Kailan Mining Administration, which is located on the main line of the Peking-Mukden Railway about 80 miles northeast of Tientsin. Here there is a proved amount of about 1,000,000,000 long tons of first-class coal, a considerable portion of which will coke. With about 20,000 men the present production is approximately 3,250,000 tons a year, with a production of about 100,000 tons of coke now produced by the Chinese process. It was stated by a well-informed authority that the Kailan Mining Administration contemplates improvements amounting to approximately \$10,000,000 United States currency in the way of washing and by-product processes,

these improvements to be undertaken as soon as possible after the end of the war. The greater part of the coal now exported from China proper comes from this field, and the average rail haul to Chinwangtao, the principal coal-exporting port, is about 75 miles. This is the only port of North China on the Gulf of Chihli that is free from ice during the long winters of this section, except Dairen, which is under Japanese control.

The next largest producing mines are the Pinghsiang collieries of the Han-Yeh-Ping Iron & Coal Co., in Kiangsi, about 260 miles southwest of Hankow. The annual production is about 1,000,000 tons, and all the fuel and coke for the Han-Yeh-Ping Iron Works at Hanyang, near Hankow, come from these mines.

There is no doubt of the fact that extensive and valuable fuel deposits occur in many parts of China, particularly in Chihli, Shansi, Honan, and Kiangsi, but so far as could be learned none of the fields other than those mentioned have been conclusively proved up as to quantity and quality. The best statement of the recent production situation was published in the FAR EASTERN REVIEW for October, 1917. As this publication prepares its data with much care, the following information is given substantially as printed. The total present coal production of China from all classes of mines is about 18,000,000 tons, of which about 8,000,000 tons come from the larger mines where more or less modern methods prevail and which are in the main, under foreign control or administration. According to figures collected by the Geological Survey of China for the year 1915, the most recent year for which figures are available, the output of the principal mines was as follows:

Name of Mining Enterprise	Location	Province	Nationality	Production in long tons
Kailan Mining Administration	Tangshan-Kaiping	Chihli	Sino-British	2,971,793
Pinghsiang Colliery	Pinghsiang	Kiangsi	Chinese	927,462
Peking Syndicate	Chaotso	Honan	British	480,875
Lincheng Coal Mining Administration ..	Lincheng	Chihli	Sino-Belgian	259,703
Chungshing Coal Mining Administration	Yishien	Shantung	Chinese	244,825
Tsin-ching Mining Administration ..	Tsingching	Chihli	Sino-German	179,154
Paoching Co.	Yangchuan	Shansi	Chinese	131,396
Liuhokou Coal Mining Co.	Liuhokou	Honan	do	91,822
Tungshing Co.	Mentowkew	Chihli	Sino-British	80,000
Sub-total				5,367,030
Fushun Colliery	Fushun and Yentai	Manchuria	Japanese	2,034,856
Penchiu	Penchiu	do	do	275,777
Total				7,677,663



Jamisen Colliery on Tao-Ching Railway

In addition to the above, the Japanese military administration mined 259,611 tons in 1915 and 443,368 tons in 1916 from the mines along the Shantung Railway, and it was expected by the Japanese authorities at Tsingtao that this amount would be increased in 1917 and again in 1918. In the above-mentioned article the rather surprising statement was made that even now China is importing from 1,000,000 to 1,600,000 tons and that in normal times there would be an excess of imports over exports. Even with the present railways, if adequate equipment and arrangements were provided, there is every reason to think that China should become an exporter of coal instead of an importer. It would appear that many of the developments have not had the possible measure of success because the proving was insufficient to determine the best scheme of development. This applies particularly to the matter of drainage, which has been the cause of trouble in many of the operations.

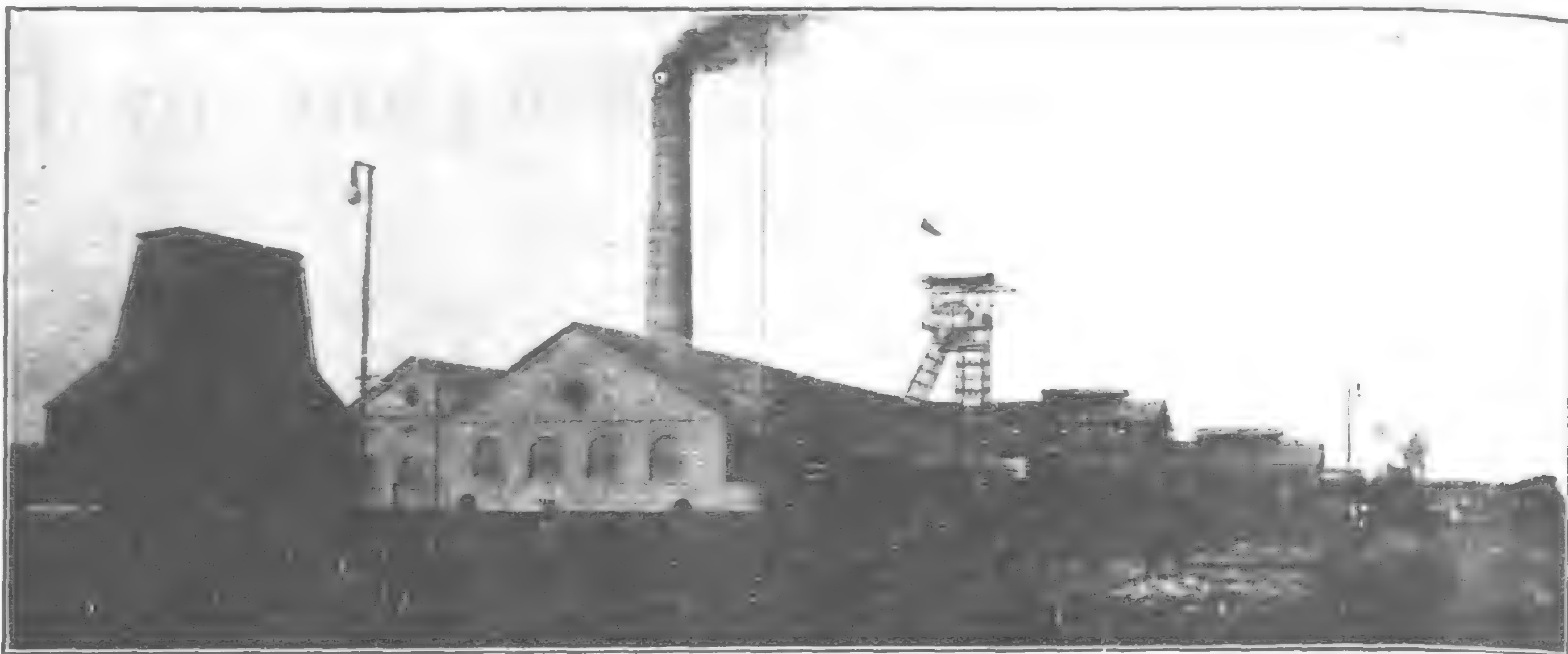
Iron

It is reasonably certain that China also has important iron-ore deposits, but the obtaining of definite information regarding the proving data was found to be even more difficult than in the case of the coal resources.

The October issue of the FAR EASTERN REVIEW also referred to the iron and steel production of China, stating that at present the total pig-iron production of China, aside from Japanese production in Manchuria, is about 300,000 tons. One-half of this is the output of the Han-Yeh-Ping Co. at Hankow; the remainder, produced by scattered native plants, is nearly all consumed locally.

The Han-Yeh-Ping works consist of two 100-ton and two 250-ton furnaces, but at present one of the 250-ton furnaces is not being operated, on account of lack of power. In addition, there are in course of erection two 400-ton furnaces near Hwangchow, about 70 miles below Hankow, on the Yangtze River. These last furnaces are on the river at the point where the ore is brought from the Tayeh mines by means of a 2-foot-gauge railway. At present about 250 tons a day are converted into steel and iron products, and all the rest of the pig iron goes to the Japanese. This plant has the only rail mill in China, the maximum capacity of which is 120 tons a day. It is understood that there is a Japanese loan to the Han-Yeh-Ping Co. amounting to \$12,000,000 (gold), the principal and interest of which is to be paid in 40 years in iron ore and pig iron. This loan arrangement for the pig iron is at the price of \$21 (gold) per ton of 2,240 pounds for the 40-year period. It is estimated that the present production cost is \$18 (gold) per ton. The loan agreement also provides that 2 tons of ore go to Japan for every one that is smelted by the Han-Yeh-Ping Co.; and the minimum amount going to Japan is estimated to be 1,000,000 tons a year.

The two 150-ton Penchihi furnaces of the Okura Co. (Japanese) are now producing about 70,000 tons a year, and the new Anshan plant of the South Manchuria Railway is expected to have the first 250-ton furnace completed and in blast before the end of 1918 and the second 250-ton furnace before the end of 1919. The production from both these plants, as well as that from the new Pingyang plant, in Korea, which may use both fuel and ore from Penchihi, is controlled for Japanese consumption. As soon as the work can be carried out it is planned to install a complete steel plant at Anshan, particularly for the production of plates for shipbuilding, of which Japan is in such urgent need and anxious to have its own supply. In any event, all the production that can reasonably be expected in the next few years will fall far short of taking care of the combined needs



Kailan Mining Administration—The Tongshan Colliery

of China and Japan, even when one includes all the possible production in Japan proper.

Other Metals

China is said to produce in commercial quantities 26 different minerals, of which antimony ranks first in value. As with the coal and iron resources, there is great and urgent need for scientific investigation of these mineral deposits, so that they can be properly and successfully developed. The transportation of minerals other than coal and iron is at present of no considerable volume and is not likely to influence materially the building of new lines of railway; rather, the building of new lines will influence the development of certain of these mineral resources, which in some cases is now much handicapped on account of slow or expensive transportation.—*"Far Eastern Markets for Railway Materials, Equipment and Supplies."*

Great Trade Future of China

China offers to the United States greater possibilities in trade than does any other section of the world. Mr. Julean Arnold, commercial attaché to the American Legation at Peking, declared before the Institute of Arts and Sciences at Columbia University, New York, recently. Mr. Arnold advocated the establishment of a school at Peking for the instruction of Americans in Oriental trade conditions. "The eyes of the world are on China" he continued, "but while Great Britain and France plan air routes from London to Shanghai and Paris to Peking, the United States contents itself with slow and inadequate trans-Pacific steamship facilities and cable connections scarcely better than mail routes. Tens of thousands of Americans to-day study Spanish to qualify for Latin-American trade but few study Chinese to prepare for what will be the greatest market the world has to offer," Mr. Arnold added. "American school children are taught ancient history but they know nothing of one of the greatest events of modern history, the Chinese revolution of 1911 when nearly one-fourth of the human race declared a republic." He declared that "direful consequences must come sooner or later from an unintelligent handling of problems arising out of our relations with nations of the Far East."

A fund of Yen \$70,000 is being raised at Yokohama for the establishment of a Public Library to commemorate the 60th anniversary of the opening of the port and the 30th anniversary of the Municipality. The Library is to be erected in Yokohama Park at a cost of Yen 340,000, and Yen 40,000 will be spent in the purchase of books.

The photograph of the Right Hon. Sir John Jordan published in last issue was specially taken for the FAR EASTERN REVIEW by Mr. Egerton Weatherall, of Peking.

Projected Railway to Serve Tsingtao

EARLY in March arrangements were made by the Board of Communications at Peking for the despatch of a party of engineers to survey the route between Shihchiachuang and Tehchow. This line is projected in connection with the flotation of a Chinese domestic loan of some \$30,000,000 bearing interest at 8 per cent. As the construction of a railway in connection with a Chinese domestic loan is a novelty prominent Chinese are endeavoring to discover an explanation for it. The Government itself makes the following statement in the Official Gazette:—

"The Peking-Hankow and the Tientsin-Pukow railways are trunk lines running from north to south, crossed by the Lung-Hai line. The present condition, however, is hardly adequate to satisfy the growing demand of the people of Chihli, Shantung and Shansi Provinces, where production is abundant and business is in a prosperous condition. To meet the situation, the Government purposes to build a railway connecting Shihchiachuang on the Peking-Hankow line with Tehchow on the Tientsin-Pukow railway for a distance of 350 li, so as to facilitate communication, not only between the two lines, but with the Grand Canal. This will prove an impetus to the development of the local industries. The topography of the region through which the proposed line is to be built being level, there will be no engineering difficulties and a sum of ten million dollars will be sufficient for its construction. Again, the balance of the Peking-Hankow Redemption Loan and interest thereto amounting to \$2,300,000, and another loan amounting to \$1,200,000, secured on the Peking-Suiyuan railway, are to be redeemed during the 9th Year of the Republic, and the date for payment drawing near, the Communications Department must make preparations before the payment falls due. In addition; the deficit of the postal, railway, telegraph and steamship administrations during the 8th year having amounted to over 29 million dollars, there is the necessity for the Department of raising the proposed loan."

This explanation does not, according to Chinese who ought know, cover the real object of the loan. They claim that the inclusion of the projected railway is to induce Japanese capitalists to take up the loan bonds in order to secure the construction of a railway which will give almost direct communication between the iron and coal fields of Shansi province and the port of Tsingtao. Already the Japanese have a contract with the Chinese Government for the construction of a railway from the northern side of the Yellow River near Tsinanfu to Shuntehfu, on the Peking-Hankow railway. This line will not serve Japanese interests as well as the one from Tehchow to Shihchiachuang.

The projected railway will connect at Shihchiachuang with the existing narrow gauge line running to Taiyuanfu, which taps a portion of the iron and coal measures of Shansi.

It is argued that Japanese capitalists will secure big advantages by taking up the domestic loan. In the first place the interest is 8 per cent., and no doubt there will be a big discount on the price of the bonds. The Peking Government will do anything to get money at this juncture, and in addition to the discount, it is certain that if the Japanese make stipulations regarding the construction and control of the projected railway the Government will grant them. On the other hand, Japanese capitalists will not benefit as much if they issue a loan to construct the proposed railway from Tsinanfu to Shuntehfu. Railway loans in China are generally made at low interest and less discount than domestic loans, and in addition there are distinct advantages to Japan to have a line built which will immediately tap the mineral resources of Western China, which the road to Shuntehfu would not do.

Certain Chinese organizations are already protesting against the issue of this loan and the purposes for which it is to be used. They know that no Chinese will subscribe anywhere near the amount of the loan, and that, therefore, the railway must be included with the object of inducing others to take up the bonds

—and the others most interested in the project are, of course, the Japanese, who will leave no stone unturned to secure access to iron deposits, particularly if other natural products can also be attracted to Tsingtao for shipment. The progress of this loan will be closely watched not only by Chinese but by all foreigners interested in the development of Chinese industries, etc.

The original intention was to build a line from Shihchiachuang to Tientsin, connecting with the Tientsin-Pukow line at Tsangchow, but at the last moment this scheme was turned down in favor of the one to Tehchow. The distance between Shihchiachuang and Tientsin, via Tsangchow, is about 160 miles, while from Shihchiachuang to Tehchow it is 230 miles. From Shihchiachuang to Tsingtao, via Tsangchow the distance is some 429 miles, while it is 360 miles from Shihchiachuang to Tsingtao via Tehchow. Another project that has priority in a sense is the old one of a line from Paotingfu, on the Peking-Hankow Railway, to Tientsin direct, and this seems to be the logical one if economy is to be practised in the development of railways in China. Only about 80 miles of construction would be necessary, we believe, to effect this link-up. In a nut shell the proposition as now under consideration will make Tsingtao the port of shipment for minerals from Shansi, and will cut Tientsin out of opportunities expected from the development of the hinterland which would be traversed by a railway from Shihchiachuang to Tsangchow.

Commenting on the commercial possibilities of the route the "China Advertiser," a Japanese paper, says as follows: "There are no articles worth mentioning which are transported over the Shihchiachuang-Tehchow Route, except straw-braid from Tehchow, and furs and hides from Hengshui and Tahsinchi. Towns and villages found on the line not being in a prosperous state, it will take some time before large mills of any kind can be worked in the district.

"At present, exports chiefly consist of cereals, cotton, groundnut-oil and fruits, which are shipped mostly by junks. But when the proposed railway is built, coal, iron and lime produced in abundance in the western portion can be brought to the eastern part of the country. The principal advantage of the line is the fact that the line can be laid without requiring much capital, with every prospect of bringing large returns.

"Railway receipts will be considerably increased by the construction of the proposed line, because both the Tientsin-Pukow and the Shihchiachuang-Taiyuan Railways being connected by it, goods shipped from Shanghai can at once be sent into the heart of Shansi. A similar benefit will not be enjoyed by the Peking-Hankow Railway, although to it the new line likewise serves as a branch. Goods are now being carried to the north by the Peking-Hankow route, those coming from Shansi being loaded at Shihchiachuang. But the new line will take the shipment from Shansi down to Tehchow, whence by the Grand Canal to Tientsin at less expense. From the financial view-point of the new line alone, however, the scheme will prove a success, because it will connect with the Chengting-Taiyuan Railway and cross the Peking-Hankow and the Tientsin-Pukow Railways, and establish a link between the three lines, to say nothing of the transportation of articles produced in regions along the route."

It will be observed that in these comments reference to Tsingtao, and the possible transportation thereto of minerals from Shansi Province, is carefully avoided, while the paper goes out of its way to mention that goods can be brought to Tehchow, and thence to Tientsin by the Grand Canal at less expense than formerly. This is a clumsy effort to divert public attention from the real object of the projected railway, but it is not likely to succeed.

Already protests against the project are being lodged by Chinese at Tientsin, as the original scheme was to build a line from Shihchiachuang to a point not far from Tientsin in order to reach the nearest seaport. The new proposal will cut Tientsin out for the benefit of Tsingtao.

General Leonard Wood—A Man of Honor

A Story for Engineers

In the early nineties a young engineer and contractor pursued his vocation in Cuba. He passed three years in the insurrection with the armies of Gomez and Maceo, was in Havana the night the Maine was destroyed, and later went with



Major-General Leonard Wood

the army to Santiago as correspondent of one of the leading American newspapers. At Tampa he met Colonel Leonard Wood and throughout the campaign that followed saw him at Las Guasimas, San Juan Hill, and during the days that intervened before the surrender. He had many opportunities for testing the unfailing sympathy and understanding of the soldier for the correspondent, and the good fellowship and open hos-

pitality that always awaited him at the tent of the Colonel and Lieutenant Colonel of the Rough Riders.

After the war the engineer returned to Cuba. General Wood had cleaned up Santiago and was then Governor General of the Island carrying into effect his simple yet wonderful program of hygiene, sanitation and public improvements which transformed the festering sink of tropical disease into a paradise where the white man could live without fear of death. Amongst these improvements was the erection of a modern cutstone school house at Santiago de Cuba. Bids were advertised for its construction. The engineer based his estimate on the wording of the specifications without taking a trip to the other end of the island to personally investigate conditions. He was awarded the contract at \$50,000, deposited his bond of \$5,000, and started to Santiago to carry out the work.

The government specifications had overstated the conditions. There were no stone masons. They had to be imported from New York. The stone that according to the government was to be found within a reasonable distance from the site of the building did not exist. Quarry after quarry had to be located and abandoned. The quest finally ended six miles beyond the terminus of the railway at San Luis. Before three months had passed the estimated profits from the contract had disappeared and the engineer faced a loss of \$20,000 to finish the job. His capital was small. Money was scarce and hard to borrow. He decided that the easiest way out was to forfeit his bond and let the government engineers finish the work. It meant the end of his contracting business. He would go on the government records as a defaulting contractor.

At this juncture General Wood visited Santiago on a tour of inspection. He examined the work on the school-house. The engineer explained his position and intentions of throwing up a losing contract which he had entered into in good faith by accepting the government specifications as true to fact. The General thought for a moment, and then said: "Finish it, my boy. Then come to me and I will do what is fair and just," and holding out his hand he said "Good Luck," swung into his saddle and rode away with his staff.

The engineer telegraphed at once to his principal in New York and urged that some way be found to comply with the obligation by borrowing the funds and trusting to the honor of General Wood to do what was right when the contract was completed. His principal, a great admirer of the General, replied "Go ahead, I will borrow the money; I will stake my last dollar on the word of General Wood."

The work dragged. It became a race against time to finish it before the government was turned over to the Cubans. The engineer arrived in Havana the day before the flag was to be hauled down. He hastened to the palace and found the General, and told him simply that he had completed the contract.

"How much did you lose"?

"Thirty thousand dollars."

"Come and see me before midnight," the General replied.

In the meantime he telegraphed to Lieutenant S. D. Rockenback, the brilliant young cavalry officer who carried into execution the wonderful engineering improvements in the province of Santiago, and asked him what was a fair and just extra payment for the school-house contract. The answer came back immediately: "\$29,000."

It was after midnight. All other business had been closed when the engineer again saw General Wood. "Lieutenant Rockenback has telegraphed that your claim is just, but you are not entitled for extra payment on certain work that he mentioned. He says you are entitled to \$29,000. See Lieutenant McCoy and he will give you a check for that amount." It was the last payment made by the provisional government before handing over the island to the Republic of Cuba.

The engineer and his principal had staked all on the simple word of a man they knew would live up to his promise. He made good his word. He did what was "fair and just."

More Electric Current for Philippine Industries

By F. J. Dolan

THE power plant of the Manila Electric Company is probably the largest and the best equipped in operation in the Far East. It is located on the Isla del Provisor, on the Pasig River in the Paco district, Manila.

The boiler plant is especially complete in equipment. It consists of twelve 400-H.P. Babcock and Wilcox water tube boilers. Six of these boilers are being enlarged so as to make their rating 508 horse-power, and are being equipped with the

latest type of mechanical stoker by which their output may be increased to 250 per cent. of rating. They are also equipped with forced and induced draught fans.

The company burns coal entirely, most of which is mined in Japan, but it is believed that Philippine mined coal will soon be placed on the market in quantities large enough to supply the great demands of this and other Island industries. The power plant is operated at 200-pound steam pressure.

The generating equipment of this company consists of a 2,000 - kilowatt Westinghouse turbo-generator set, one 1,500-kilowatt Westinghouse turbo-generator set, two 2,500-kilowatt Allis-Chalmers turbo-generator sets and one 5,000-kilowatt turbo-generator set.

Current is generated at 3,300-volt, 2-phase, 60-cycle for general distribution over the city and suburban towns and villages, supplying a population of approximately 300,000 people. This current is reduced to 220-volts, either single or 2-phase, for use in house lighting and industrial purposes, and extends a distance of approximately 5 miles from the power plant.

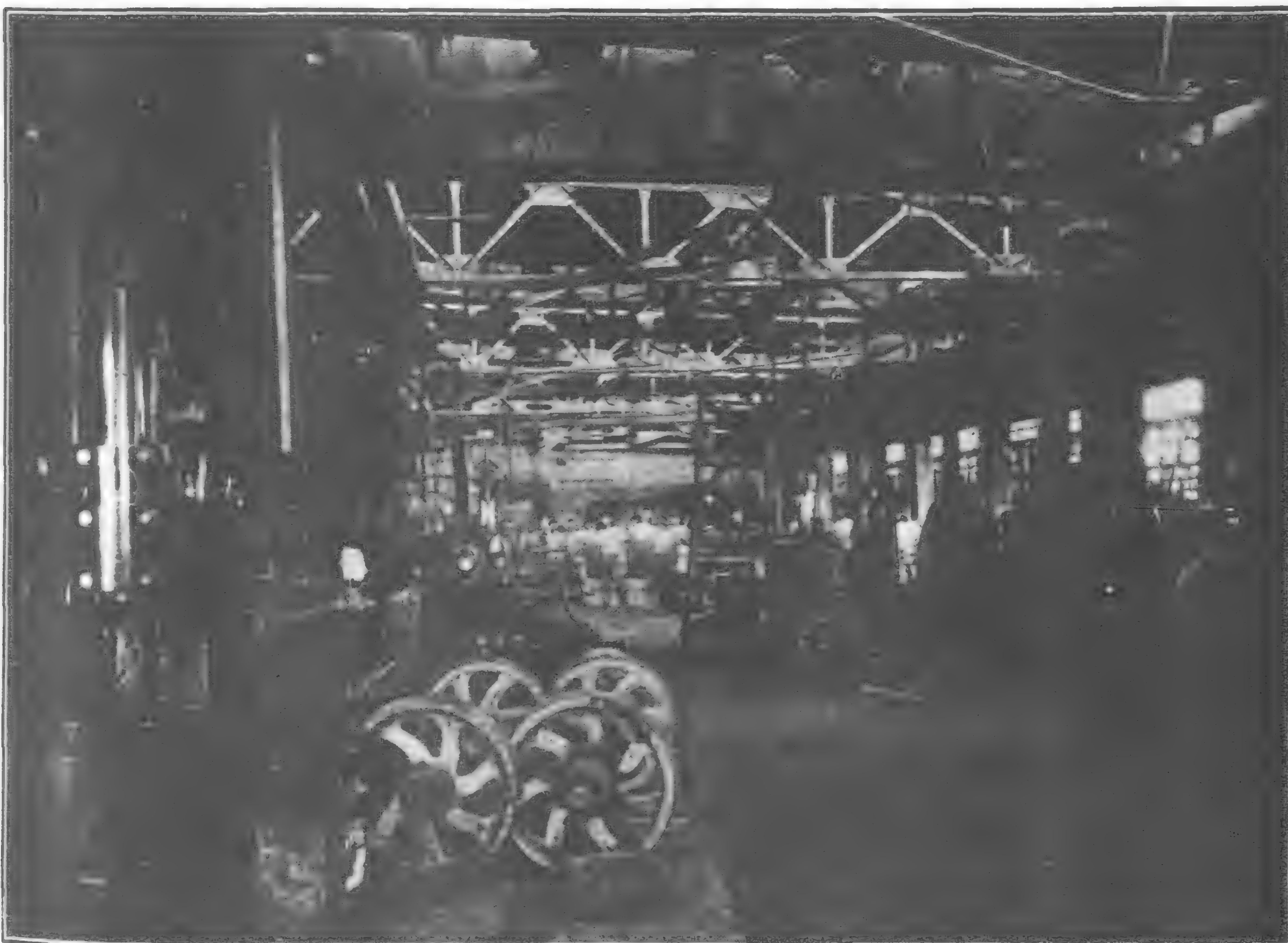
The street car system is operated from 500-volts of direct current furnished by three 500-kilowatt rotary converters, one 1,000-kilowatt rotary converter and one 1,000-kilowatt motor generator set.

The power plant generates a little less than 4,000,000-kilowatt hours per month, and its peak load reaches an average of 9,100-kilowatts. Almost one hundred and fifty miles of city streets are illuminated nightly by this plant, besides the operation of the street car system and the lighting of numerous stores, theatres and industrial plants. Approximately 10,000 meter-customers and 17,000 flat-rate customers are served. Twelve thousand horse-power of motors are connected to the lines.

Over two hundred and twenty-five tons of coal are fed



Interior of Engine Room of Manila Electric Co.



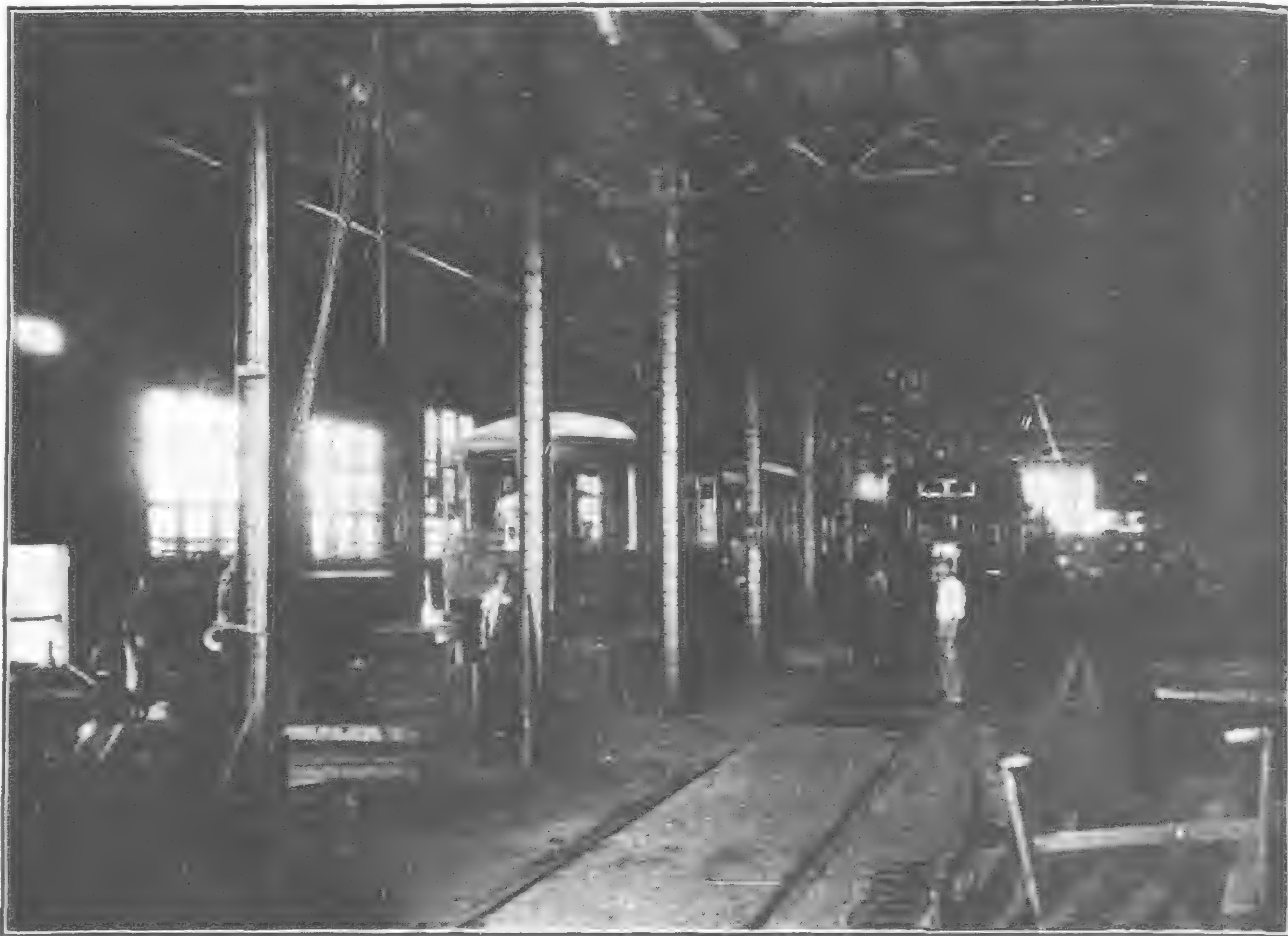
Interior of Repair Shop of Manila Electric Co.

daily to the ever hungry boilers, an amount which far surpasses that being used by any other plant in the Archipelago.

The city of Manila owes to the directors of this enterprise a great debt of gratitude for the absolutely fearless spirit which they have shown in the face of seemingly insurmountable obstacles, and for the faithful service of the public which has always been the watchword of the company.

The benefits which have been derived by this city from the establishment of street railways are many, both direct and indirect.

In the outlying districts of the city there have grown up entire barrios whose existence are directly traceable to the fact that they are made accessible by the extension of the car lines. This has created a large class who now own their own homes, but who formerly lived in the more thickly settled and less healthy districts in Manila.



Interior of Car Barn, Manila Electric Co.

Philippine's Trade Report's Meaning

The first monthly trade report of the Philippines this year marks the *début* of the Islands in a period of commercial prosperity heretofore unequalled in the history of the archipelago. Figures recently secured at the Custom House by a FAR EASTERN REVIEW representative show that during the month of January the Islands exported goods amounting to P26,569,989, while the imports reached only P20,442,867, showing a balance of trade in favor of the Islands of P6,127,122. For the same period last year, the balance of trade was against the Islands, the figures being P18,964,354 for imports and only P17,777,156 for exports.

The preponderance of exports over imports last January is due to the picking up of the price of hemp and the greater quantity exported. The figures show that there were sent out of the Philippines last month 12,064,068 kilos valued at P5,277,452, compared with only 1,564,429 kilos worth P966,025 for the same period last year.

The exportation of oil in January was 16,253,976 kilos valued at P10,884,711. For the same month last year the figures were 20,376,020 kilos valued at P12,196,137, which shows a slight decrease as compared with the figures of the corresponding month in 1920.

In cigars, the Philippines exported last month 39,372,067 valued at P2,120,120 as compared with only 36,459,346 for the same period



Boiler Room showing twelve 400 H.P. Boilers.

last year worth P1,739,384. The exportation in leaf tobacco in January, most of which went to Europe, was 5,074,844 kilos valued at P3,019,847, as compared with 2,513,784 for the same month last year worth P1,004,491.

The exportation in sugar was 2,187,987 kilos valued at P970,165, as against 1,298,866 kilos valued at P144,003 for the same period last year.

The importation into the Philippines for the month of January may be judged by the numeration of the following list of the most important items: iron, and manufactures of iron, P4,835,095; cotton cloths, P1,581,080; manufactures of cotton, P747,036; automobiles and parts of, P1,184,473; rice, P53,866. The total duty collected on imports was P842,572.—F. J. DOLAN.

The Treaty is Dead

The Fight for the Constitution

By George Bronson Rea

THE treaty is dead. The Chinese may derive a certain satisfaction from the delusion that the Shantung award was one of the contributory causes to its defeat in the United States Senate and take unto themselves and their friends an undue proportion of the credit for their part in bringing this about. They should labor under no such delusions. The real fight in the American Senate has nothing to do with the treaty. It is a struggle of constitutionalism against autocracy, of the rights of majority rule against the self-willed leadership of a one-man dictatorship. It is, on another scale, the great problem that China has to solve in her own way for her own salvation; whether the duly elected representatives of the people in parliament assembled shall be permitted to govern the nation, or whether this constitutional body shall be ignored by every tuppenny military satrap seated in the Presidential chair by the power of the army and held there in defiance of the popular will by the points of its bayonets.

The lesson of the Peace Treaty at Washington is one that all other self-governing democracies should take to heart and heed. Instead of criticism and ill-natured abuse, foreign self-interest should be laid aside long enough to try and analyze what it all means. The Americans are not quitters, nor are they shirking their obligation to the Allies or mankind. They are, however, determined first of all to preserve intact those principles of self-government upon which rests the future hope of the world, principles that have been ignored, surrendered and flouted by a strictly party government under a one-man dictatorship. If this principle is now surrendered, if the constitution no longer binds the Chief Executive to its provisions, then the end of our great experiment in government is not far off. If the Constitution can be set aside to further the ambitions of one President, the precedent is created for his successors to do likewise, and the time will sooner or later arrive when the nation will be face to face with another civil war, and degenerate to the level of the Latin American and Chinese republics.

The issue in the United States simmers down to this. After four years of shirking responsibilities, preaching idealism and pacifism, of being too proud to fight, and penalizing the red-blooded, virile, representatives of American manhood whose voices were raised throughout the land for preparedness and defense of our rights, President Wilson was finally compelled to go before Congress and ask for a declaration of war against Germany. The nation to a man, stood shoulder to shoulder behind him. There was no wavering. Party lines were forgotten. The old-time fighting American instinct flamed anew in answer to the challenge thrown down by the continued bad faith and insults of Germany. Did the President appreciate and reciprocate the wonderful wholehearted patriotic support tendered in this black hour of world stress?

No! He declared in effect: "this is a war for Democracy, to make the world safe for Democracy. It is a party war, a Democratic war and only Democrats are fit to be placed in responsible positions." He refused to permit Republican statesmen to share in the responsibilities of government and its administration, either as Cabinet officers, organizers or military leaders. He rebuked, penalized, ignored and nearly broke the heart of the greatest American since Lincoln, who humbly and respectfully requested his right as a citizen to fight for his country in its hour of danger, not as a commander of armies, but as a simple brigadier under the orders of the Commander-in-Chief. He demoted and slighted the leading General of the American army, the greatest executive and organizer the country has developed and tried to force his retirement by ordering him before a medical board for examination for physical disabilities,

simply because this whole-hearted, far-sighted American, had been outspoken in his demand for national preparedness at a time when President Wilson was preaching pacifism and disarmament. The Republicans of the United States will never forgive these slights and injustice to Roosevelt and Wood, nor the lack of consideration for those other tried and experienced diplomats and statesmen who have piloted the nation to greatness and prosperity through the long years since the civil war.

When all other great nations had wiped out domestic party lines and called into supreme power coalition and national cabinets, President Wilson clung tenaciously to strict party lines, and surrounded himself with and brought into office untried idealists, dreamers, literatii and a hodge-podge collection of political followers, to do the work that only trained men can accomplish. And, when in November 1918, election time drew nigh, he went before the country and asked, nay demanded, that the people return a Democratic majority to Congress; on no account must Republican be elected. The Republicans, for years the dominant party in America, were not worthy to assist in directing this great struggle for Democracy, they were good enough to fill the ranks, and do the real work in subordinate positions, but the glory and prestige of the great sacrifice must belong to Triumphant Democracy, to Democrats, and, by a process of elimination, to one single Democrat, Woodrow Wilson.

The great American public listened respectfully and then, in no unmistakable tones, asserted its independence. The answer deposited in the ballot boxes was clear. A Republican majority was elected to both Houses of Congress. Did the President accept the verdict of the nation? No!

The President was courteously informed by the dominant party leaders that the League of Nations must be separated from the Treaty. The Republican leaders in the Senate exercised their constitutional rights in advising him on this matter, and warned him that any such treaty would be rejected. He was urged to remain in Washington and direct the affairs of the nation and send duly appointed commissioners to Paris to negotiate the treaty. To all this safe, sane, old-fashioned American advice, the President turned a deaf ear. Instead of following the time-honored precept of keeping his ear to the ground to catch the first rumblings of coming discontent; his eyes were focussed on beautiful visions that danced before his gaze on the horizon; his head reared above the clouds and his ears listened rapturously to mysterious voices in the air. He scorned the advice of the coordinate treaty-making power, and, on the eve of his departure for Paris, threw down the gauntlet of battle by publicly declaring that he would come back with the Treaty so interwoven into the League that they could not be separated without destroying them both.

And he kept his word.

The Treaty was signed. The President returned with it to the United States. Was the document submitted at once to the other branch of the treaty-making power. No! It was being sold on the streets of German cities for twenty-five cents a copy, its contents were known throughout France, England, Italy, and other countries, copies were in the hands of certain Wall Street financiers, but the coordinate treaty-making branch of the American Government was maintained in complete ignorance, until an enterprising Chicago newspaper whose correspondent obtained a copy in Paris and rushed it over the Atlantic published it in full. It was the first information the United State Senate received of its contents, and was duly read into the official record. The President at last sent the official copy of the treaty to the Senate with the demand "that this must be signed at once, and, as it is written," without the crossing of a t, or the dotting of an i.

A Supreme Council of Four sitting in secret in Paris drafted and signed an epoch-making document, and then said to the advisory half of the constitutional treaty-making power of the United States, "sign here on the dotted line." Could the Czar, Kaiser, Huangti or Shogun in the heyday of their autocratic powers, have acted in a more arbitrary and contemptuous manner, in defiance of the people's right, than did President Wilson in this matter?

Is it any wonder that the worm at last turned? The "Poor Fish" of the Republican Senate refused to bite. Four years of patient waiting, eating out their hearts with a patriotic and commendable desire to give their best to their country, discriminated against, abused, maligned, slandered, insulted and ignored, the Republican majority turned on the dictator. The experience had left an indelible mark upon the Republican leaders and aroused the intense hostility of the party at large. Can the world wonder at the result? Can it censure the group of "bitter-enders" who have sworn to kill the treaty, and so place on record their patriotic adhesion to the constitution, flouted and overridden in this insane desire to ram down the throats of the Senators, the personal will of the President?

The Republican party is sore. There is no use trying to disguise this fact. For the first time under the constitution, its leaders have shown a determination to use its power. The treaty is dead. The Knox proposal to declare peace with Germany has passed the Senate Committee on Foreign Affairs. It may pass the Senate and be rejected by the President. It or some compromise may be passed over his veto by a two-thirds vote. And then, what? Already are heard rumblings of impeachment proceedings. The President is accused of "failing to faithfully perform his duties, that he has not in good faith endeavored to preserve, protect, and defend the Constitution of the United States. That acting to the contrary, he has endeavored to thwart, contravene, frustrate, and defeat the Constitution, and its purpose." He is accused of contriving with others to bring about and affixing his signature to, so much of the Treaty of Versailles as embraces the Covenant of the League of Nations, has deliberately attempted to subject the Congress of the United States to a jurisdiction foreign to our constitution and unacknowledged by our laws. By word and act he has shown contempt for the Senate of the United States; he has sought by inciting the uninformed to clamor against the lawful use of the authority thereof, and by threats, to diminish the prestige and authority of a coequal organ of the government. This he had done in the attempt to deprive the Senate of the untrammelled use of the powers by which it is enabled to discharge essential duties imposed upon it by the constitution, in order that he may unlawfully possess himself of these powers, to the end that he should himself become the uncontrolled master of our foreign relations. Moreover, he has heaped contumely upon members of the Senate engaged in the discharge of their duties, and has sought thereby to bring members of that body who respect the sovereignty of their respective States, into disrepute, to the jeopardy of that sovereignty and of the respect for government and law and the rights of the States upon which the security of the nation depends. Still, these rumblings presage the coming storm. This may be accepted as the sentiment of many Republicans, but it will hardly receive serious attention.

The Japanese Privy Council voted for the impeachment of their delegation, because it surrendered vital points of sovereignty and equality. Only the absence of any legislative machinery in Japan for this purpose, has freed the Delegation from answering to the people for their mistakes. The machinery for impeachment exists in the United States. A President can go so far and no further. The fight for the preservation of the American Constitution is not finished. Out of consideration for his undoubted high motives, the President may escape legislative censure. Then the issue will be carried to the polls. **THE CONSTITUTION!** will be the campaign slogan of the Republican party this coming year.

The American people recognize their duty to those they have fought with, but their first duty is to themselves. If the Treaty is passed as it is written, and the President emerges victorious

from the conflict, the days of the great American Republic are numbered. From free citizens of a glorious democracy, Americans will be converted into the subjects of autocrats wearing concealed underneath the sleek, glossy, exterior of a high-silk hat the ponderous crown of a Muscovite Czar.

Chinese Railway Technics Commission

The first session of the Preliminary Engineering Conference of the Commission on Railway Technics was begun on February 14 in the Ministry of Communications, Peking. It was personally attended by Minister Tseng to emphasize its importance.

The opening address was given by the Chairman of the Commission on Railway Technics, M. H. Shen. In the course of it he briefly reviewed the importance of the unification of railway technics and engineering, and the history leading to the organization of the Commission. He paid a tribute to the late Dr. Jiem Tien-yu, former Chairman of the Commission, who had rendered no small assistance as its inception.

The Minister of Communications also spoke pledging his support to make the Commission a success. The other speaker of the occasion was Mr. Whang, Chief of the Traffic Department and Director-general of the Chinese Government Railways.

The four foreign advisers who were specially engaged in connection with the Commission on Railway Technics were present. They were T. R. Johnson, British Adviser; F. H. Clark, American Adviser; S. Hirai, Japanese Adviser; and P. Painleve, French Adviser. Among those who attended the meeting were:

- J. F. Yu, Vice-chairman.
- T. C. Li, Vice-chairman.
- Thomas Sze, General Secretary.
- T. T. Hoa, Member-in-Charge, Committee on Engineering.
- E. F. Wei, Member-in-Charge, Committee on Mechanics.
- C. S. Liu, Member-in-Charge, Committee on Traffic.
- C. Chang, Member-in-Charge, Committee on General Affairs.
- T. R. Johnson, Adviser.
- F. H. Clark, Adviser.
- S. Hirai, Adviser.
- P. Painleve, Adviser.
- A. Taton, Delegeue de M. Painleve.
- L. Dethieu, Chief Engineer, Maintenance Department, Peking-Hankow Line, Member of the Commission.
- T. King, Resident-Member.
- E. K. Denn, "
- J. S. Suen, "
- H. Ouang, "
- H. W. Ho, "
- T. T. P'ou, "
- Y. C. Yew, "
- P. S. Tang, Resident-Member and French Secretary.
- V. T. Paw, Resident-Member.
- W. F. Wang, "
- H. H. Ling, "
- E. H. Sze, Japanese Secretary.
- B. Bellion, English and French Secretary.
- B. J. Boothby, Engineer-in-Chief, Canton-Kowloon Line.
- E. Bonnevey, Engineer-in-Chief, Lunghai-Pienlo Line.
- G. Bouillard, Adviser, Peking-Hankow Line.
- C. J. Carroll, Acting Engineer-in-Chief, Hankow-Ichang Section, Hankow-Szechuan Line.
- C. L. Chai, Chief of Engineering Department, Peking-Hankow-Suiyuan Line.
- A. G. Cox, Engineer-in-Chief, Hupeh-Hunan Section, Canton-Hankow Line.
- E. C. A. Dunn, Engineer, Way and Works, Taokow-Chinghua Line.
- D. P. Griffith, Acting Engineer-in-Chief, Shanghai-Nanking and Shanghai-Hangchow-Ningpo Line.
- A. R. J. Hearne, District Engineer-in-Chief, Tientsin-Pukow Line.
- T. Hu, Chief of Engineering Department, Chuchow-Chinchow Line.
- de Laperiero, Acting Engineer-in-Chief, Cheng-Tai Line.
- C. S. Wang, Assistant Chief of Engineering Department, Peking Department, Peking-Hankow-Suiyuan Line.
- J. E. R. Peebles, Resident Engineer, Chuchow-Pinghsiang Line.
- Shisato, Engineer-in-Chief, Seu-Tsen Line.
- D. P. Ricketts, Engineer-in-Chief, Peking-Mukden Line.
- Shemidsu, Resident Engineer, Kirin-Changchun Line.
- J. S. Wang, Managing Director, Chanchow-Amoy Line.
- M. Sullivan, Acting Engineer-in-Chief, Chuchow-Chinchow Line.
- J. N. Yu, District Engineer-in-Chief, Tientsin-Pukow Line.

The preliminary engineering conference lasted several days. The subjects for discussion during its sessions were (1) Standard Construction Gauge, (2) Cross-sections of railways, (3) Permanent ways, (4) Switches and crossings or frogs, and (5) Steel bridge constructions. These are main subjects which are subdivided.

Progress in Chinese Journalism

THAT journalism in China has taken remarkable strides forward in recent years goes without saying, notwithstanding that it was in the days of the Ming dynasty when the first newspaper—the “Kung Men Chao” or “The Imperial Court Gazette,” of Peking—was published in the Middle Kingdom. But it is interesting to note the various phases of such progress.



— The “Shun Pao” New Concrete Building, Shanghai

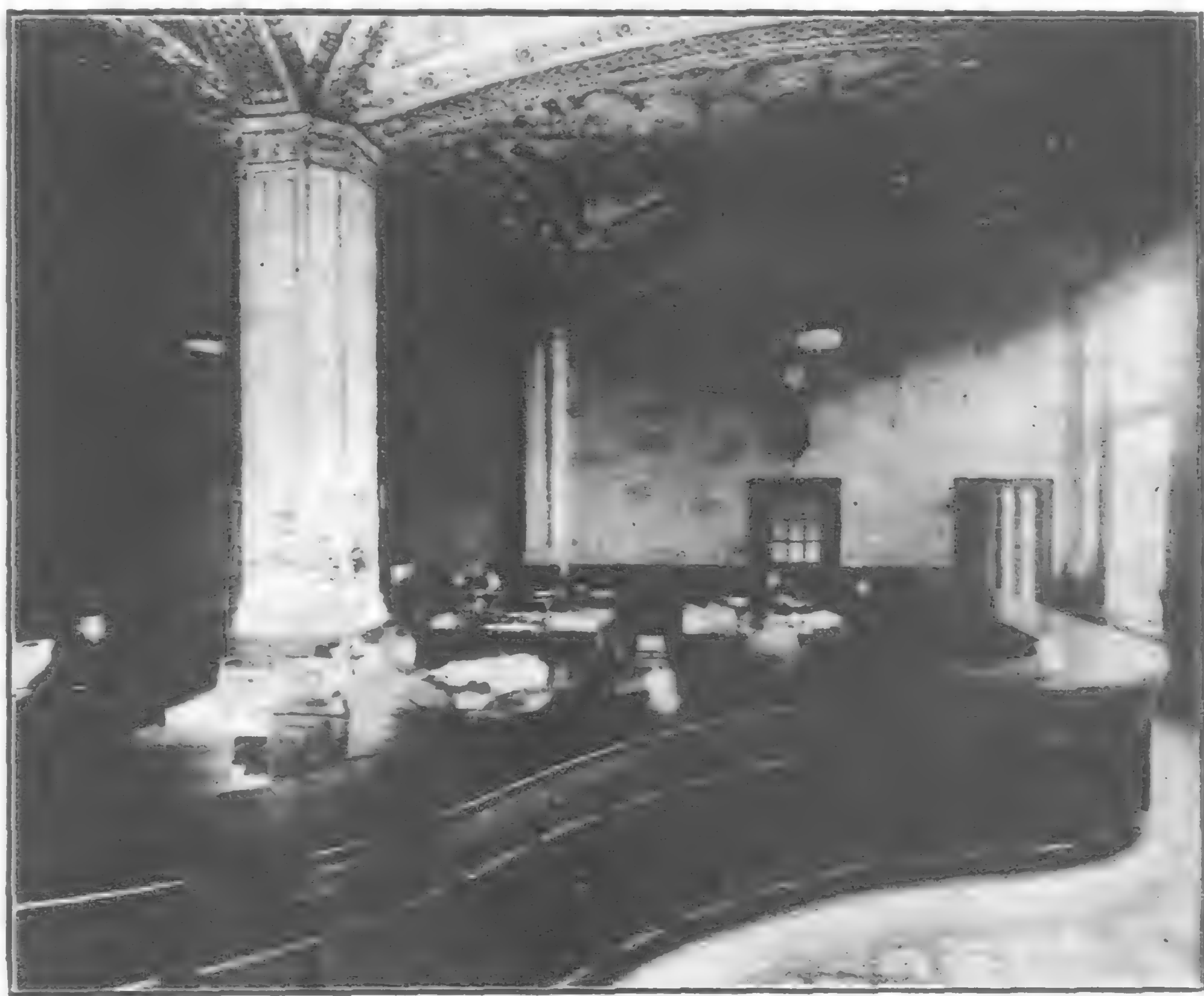
We will not attempt to estimate the number of newspapers in actual existence throughout the Republic, since it is never easy to get at precise figures, but it is surprising that more and more foreign newspapers are also entering this interesting field to enlighten Chinese public opinion. For example, many so-called native papers are really Japanese owned, yet their “we Chinese” and “our country” are meant to lead the unwary astray. In addition the same nationals are also starting professedly Japanese organs in the English language in Peking, Tientsin, etc., so that Dai Nippon’s aims and policies *vis-à-vis* the Chinese may not be misunderstood by Americans and Europeans. Finally there is also the interesting fact that not a few foreign dailies have begun to publish Chinese editions, notably the “Peking and Tientsin Times” and “Le Journal de Peking.”

Until democracy as it is definitely understood in the West, is fairly enthroned in this country, it seems that the phenomenon of what the Chinese call “political-parties-subsidised” papers will always exist, especially as the art of advertising is still an almost unknown aid to Chinese merchants. Even then within such circumscribed limits the enterprising among the Chinese journalists are endeavoring to live up to the ideals and traditions of their noble profession. Consequently, apart from taking sides where they are expected or constrained to do so, these editors have a considerable field to explore in the way of enlightening public opinion. And this is especially true of their non-political news pages—the literary sheets—with the result that not only serial stories are regularly appearing but translations from foreign fiction—e.g. Carpenter’s “Love’s Coming of Age”—are also becoming increasingly popular.

A decade ago a favourite “stunt” with the native newspapers in Shanghai—that holiest of holies of extra-territoriality—was to heap coals of satire and ridicule upon the heads of Chinese officialdom. For example, the following appeared in translation in one of the most influential dailies which to-day is “still going strong,” under its Notes and Comments:—

“The eight thoughts of a Chinese official are—(1) When he hears of the construction of a railway, he thinks of its being vested in Government control; (2) when he hears of the development of a new industry, he thinks of the appointment of officials to foster it; (3) when he sees commercial commodities, he thinks of the *likin* tariff; (4) when he meets a Western Returned Student, he regards him as a revolutionary; (5) when he meets a Chinese merchant from Singapore, etc., he thinks of charitable endowments; (6) when he meets a superior, he thinks of cultivating his good graces; (7) when he meets an inferior, he expects to be treated with due respect, and (8) when he hears of a local uprising he calculates upon his chances or otherwise of earning a Red Button.”

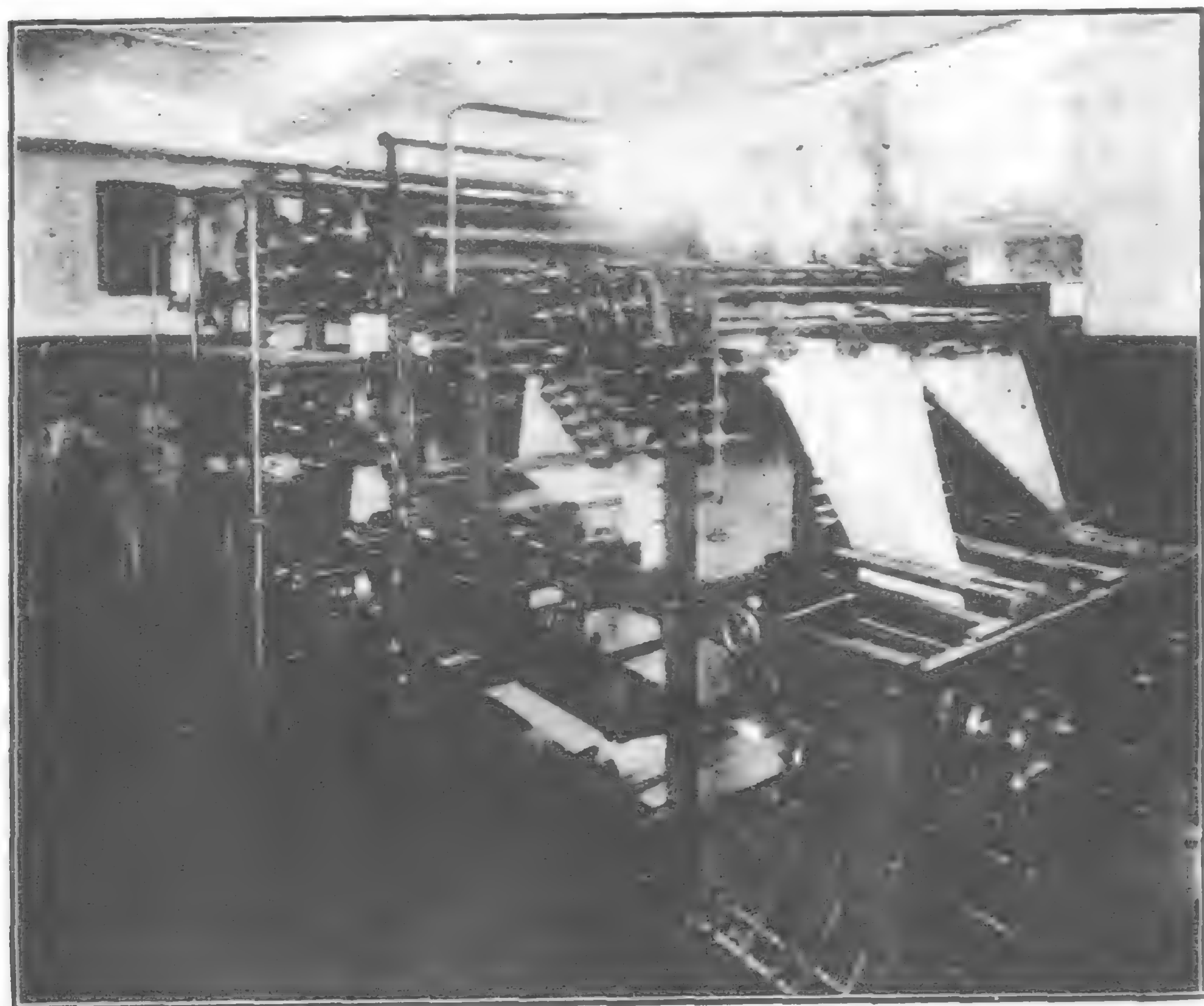
Such language sounds rather archaic after the lapse of ten weary years, for not only about 6,836 miles of railways have been constructed and numerous industries developed, but the Manchus have gone, never to return, and the people are living under a Republican regime, even though it is still in name. Besides, Red Buttons and Peacock Feathers are no longer *a la mode*; these have perforce been replaced by the Order of Merit, the Order of the Excellent Crop, and the Order of the Striped Tiger, etc. Nevertheless, patriotic Chinese will yet for many a long day have to do incessant spade work to cleanse the Augean stable of official corruption in this country. And until the hearts of Chinese officials are purged of all forms of uncleanness, it may be doubted if Democracy can be really enthroned on the pedestal of China’s body politic.



Business Department of “Shun Pao”

However, it is encouraging to find that even to-day “the pen is mightier than the sword,” and the Chinese editor knows how to wield his pen and make the wrong-doer look stupid. But the predominant note which is being struck in the majority of Chinese journals is one of reconstruction.

Eight years of mock Republicanism and two years of insensate civil strife between the so-called North and South have nauseated men's minds, and the clarion call proclaimed to-day through the press is "Reconstruct!" The unabashed hypocrisy of those who perform lip service to the ideals of



Printing Department of the "Shun Pao" (The Sextuple Rotary Press, R. Hoe, Maker.)

constitutionalism is worn almost threadbare and none but the absolutely blind will wish to see them continue, much less multiply. Politics, finance, education, etc.—all these are so much rottenness, and their tottering structures will soon collapse like a pack of cards. There is no time to be lost if the calamity is to be averted, and hence the imperative need of immediate reconstruction from top to bottom.

Yes, but how to reconstruct? The change from absolute monarchy to a Republic does not seem to have helped the Chinese people much, except perhaps in their being minus the Manchu-imposed hirsute appendage, and the word politics is being almost tabooed from patriotic, respectable Chinese society. In fact, the professional politician is a parasite of the first water and the wider the berth he is given the better for all concerned. On the one hand he lends no help to the production of wealth, and on the other he is daily eating into the vitals of the nation, if not actually selling the people's birthright for a few miserable shining shekels. If so, all the energies of the nation should be concentrated on the problem of increasing the national wealth, not however by ill-gotten means but by honest labor.

The most effective method for this purpose is to bestir the wealth-producing elements and assist them in all possible directions. Those who can read the ordinary newspapers do not need much persuasion in this matter, and already they have done more than their level share to make themselves as well as their country prosperous. But the vast majority who are unable to wade through the journals written in classical Chinese style deserve all possible encouragement, since their quota of contribution to the sum total of the nation's wealth is by no means negligible. Therefore they should be given the means of enlightenment most easily accessible to them. And such facilities are gradually being provided through the medium of the vernacular press in simplified colloquial (*pai hua*), as the newly started "Ming Pao."

According to its advocates, notably Prof. Dr. Suh Hu, of the Peking Government University, the *pai hua* (plain language or vulgate Chinese) should be the new language for

this country, because it is the spoken language and most truly represents the life and needs of the people. The old classical "literary language" is dead, and no longer a sufficient medium for creative literary productions: "Only a living language is fit for the production of a living literature." What is most important, the old *wen-li* style is accessible only to the educated classes, whereas the new movement aims to open the literary riches of the world, etc., to the greatest number of people. Therefore, "if we truly wish to give China a literature which shall not only be expressive of the real life and thoughts of our own time, but also be an effective force in intellectual and social reforms, we must first emancipate ourselves from the fetters of a dead language which may have once been the fitting literary instrument for our foreigners, but which is certainly not adequate for the creation of a living literature of our own times."

Hence more and more papers are being published in the *pai hua* style. "There are several scientific and philosophical works now published in the spoken language. Editors of several newspapers, such as the 'Kuo Min Kun Pao' of Peking, and the 'Shih Shih Hsin Pao,' of Shanghai, are now writing their editorials in it. Other periodicals, notably the 'Weekly Review' of Peking, and the 'Renaissance,' a new monthly edited by the students of the Peking Government University, are publishing vulgate articles and verses in their columns. Last but not least, Mr. Liang Chichao, whose writings have greatly influenced the Chinese for almost twenty years, is now writing his Sunday lay-sermons in the spoken language."

Notwithstanding the opposition of the classical or literary school, it seems that the *pai-hua* has come to stay. Hence many native newspapers have also their extra *pai-hua* sheets, either distinct from the main issues or complementary to them, exclusively for the less educated classes. And the newest auxiliary venture in the field is the "Ming Pao" (or "The Voice") of Peking which began publication on November 1, 1919. It has just one big sheet, but it promises to grow larger. Its most noteworthy feature seems



The Editorial Department of the "Shun Pao"

to be refreshing independence and emphasis on the wealth-producing possibilities of the Republic. In addition to the usual quota of news such as late government decrees, local news, domestic news, topical notes and comments, etc., its first issue contained an article on the development of the

Chinese trade in pig's bristles and also shorter ones on the dangers of drinking and smoking, as well as certain objectionable practices found at Chinese theatres.



Halftone and Zinc Plate Department of the "Shun Pao"

We will not attempt here to enumerate the formidable list of publications which to-day are influencing Chinese thought and mentality: they are admirably set forth in Mr. H. C. Meng's informative article on "What the Chinese read to-day," in "China in 1918," edited by M. T. Z. Tyau, LL.D. But even a cursory glance at current Chinese periodicals reveals the fact that there is a distinct tendency in favor of socialism and feminism in the majority of such writings. For example, a recent issue of "La Jeunesse"—that redoubtable champion of *pai-hua*—was devoted almost entirely to a study of the doctrines of Karl Marx and his disciples, and "Das Kapital" has already appeared in a metropolitan daily. Besides in "Emancipation and Reconstruction," one of the newest periodicals, the doctrines of Robert Owen, Louis Blanc, Saint Simon, Fourier and other utopian theorists have admittedly acquired an incomparable importance.

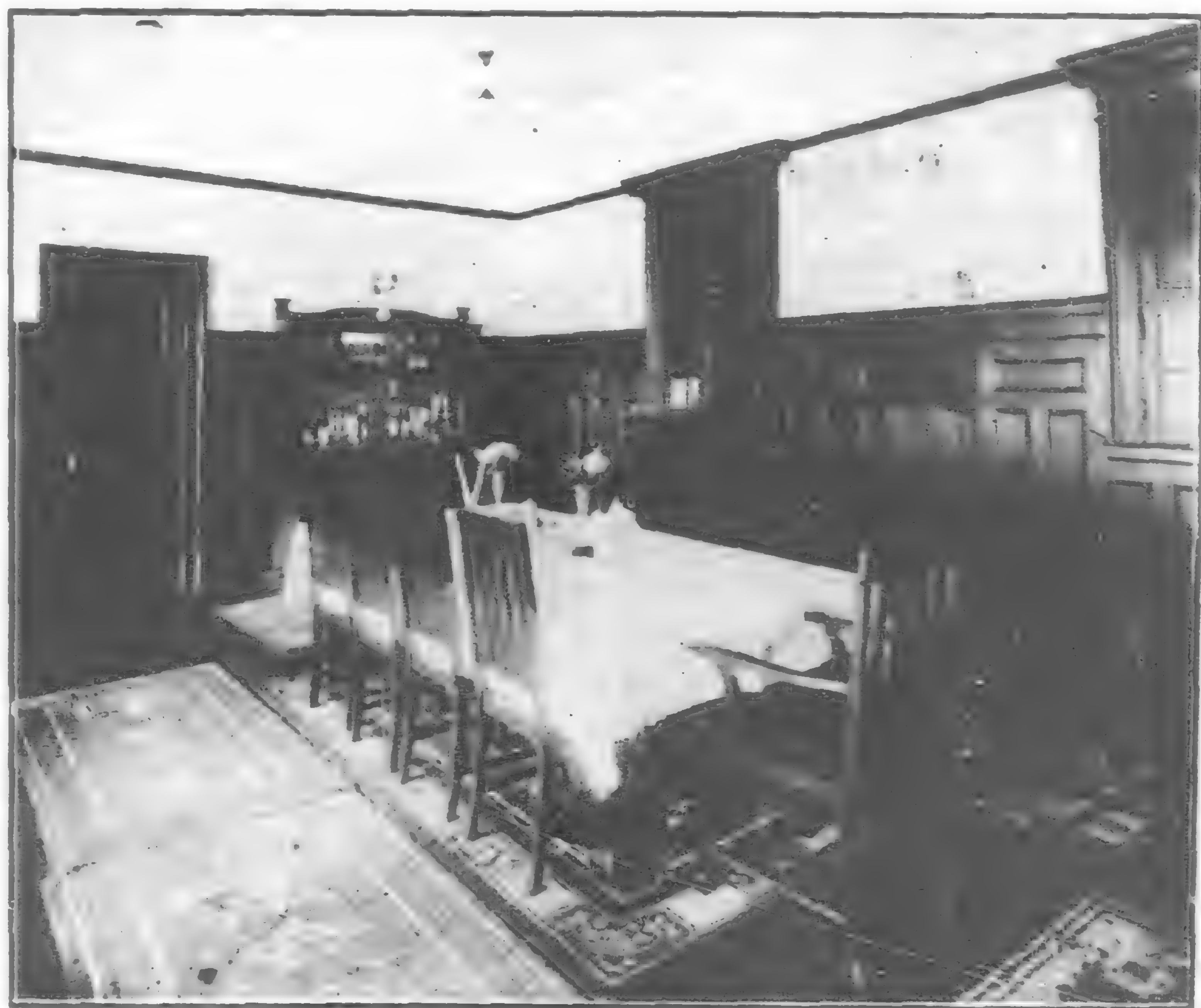
"The hand that rocks the cradle rules the world." So the woman in China is steadily coming into her own, and perhaps faster than one would have thought. A recent number of "Emancipation and Reconstruction" thus includes the following among its bill of fare:—woman suffrage, co-education, the fight for woman's economic independence, the abolition of prostitution and concubinage, etc. Feminists in China may or may not be sanguine over their rosy expectations, but there is no denying the fact that the movement in favor of woman's emancipation has more than begun. "The Chinese Ladies' Home Journal" has been in existence for almost half a decade and the feet of that redoubtable idol of clay—the old-fashioned matrimony, with its match-makers and other senseless customs—are fast crumbling to dust. If every Chinese lady were to adopt the advice advocated in its columns in choosing a life-partner, it would seem that many otherwise eligible young men would be deterred from embarking upon the venture. In fact, the advice was no other than that which would be followed by a man in his choice of a life-partner.

Thanks to the present lawlessness and anarchy, the militarists are having it all their own sweet way. The weight of their mailed fist is evident everywhere, and more than one liberal newspaper has been compelled to cease publication. The general atmosphere has become decidedly stifling, and

Chinese editors are only too glad to take refuge in innocuous doctrines of socialism. The powers that be may label these new theories by the convenient name of Bolshevism, but that would be only a pretext to close down more enlightened organs of public opinion. The fact is there is a new spirit abroad in the land which it is not easy to quench by either force or peaceful persuasion. It was this spirit which was responsible for the recent Student Movement, and it is this same spirit which is striving for the greatest good to the greatest number. However deficient the Chinese press is in other respects, it is distinctly to its credit that it is by no means lagging behind when the Republic is stirring from east to west and north to south.

The "Shun Pao," established in 1872, or during the reign of Tung-Chi of the Ching Dynasty, is the oldest newspaper in China. Its head office is a modern five-storied concrete building, built by the American Trading Company, at 24 Hankow Road, Shanghai. There are more than a hundred rooms in the building, certain of which are divided into three departments, Business, Editorial and Printing. There is also a library, photo-engraving rooms, artists' quarters, and a staff club.

The printing machinery is of the latest American type. Forty-eight pages can be printed at a time and 48,000 copies of 12 pages can be printed, folded, delivered and counted in an hour. The equipment can produce copper and zinc plates, electors, stereos, mats, etc. The physical appearance of the newspaper is attractive. The type is clean and clear. The advertising designs are well executed. The commercial reports are exhaustive containing a complete list of the latest market quotations on all sorts of commodities. Much discrimination is used in the selection of the cartoons and scenery pictures. Only those are used which have educational and instructive value. There is a "Free Talk" department devoted to wit and humor, entertaining literary articles, and domestic science. The policy of the paper is to uphold and lay special stress on industry and education, believing that by encouraging public opinion and independent thinking they are marching towards democracy.



Dining Room of the "Shun Pao"

The library contains a complete set of old "Shun Pao" publications covering a period of 47 years. Owing to the old establishment of the paper it has a wide circulation which extends to every city in the interior of China, the South Sea Islands, Annam, Korea, Europe and America.

Union Insurance Society of Canton, Ltd.

The Union Insurance Society of Canton, Limited, was established in 1835—85 years ago—by a group of far-seeing pioneer British merchants under the guidance of the old firm of Dent & Co. Almost immediately it achieved a degree of success, which was remarkable even in those fortune-making days. The initial capital was \$1,250,000, divided into 250 shares of \$5,000 each, with \$1,000 per share paid up. Every third year in those improvident days, the profits were divided, and scanning old reports we read of a first, second and even a third dividend of \$500 per share.

In 1841 when Hongkong was ceded to the British Crown, the confidence of these early day merchants was evinced by the transference of the "Union" to the security of the new Colony and the British flag. Its development has been synonymous with the growth of the colony ever since.

In the general financial upheaval of 1864, Dent & Co. came to grief, but the "Union" unshaken became a separate entity. A British Committee of Management was appointed, consisting of the representatives of the great British firms then established in the Colony, and Mr. C. D. Williams was appointed Secretary. He retired shortly afterwards in favor of Mr. Robert Watmore, who was succeeded in 1871 by Mr. Nathaniel J. Ede (uncle of the present General Manager, Mr. C. Montague Ede) who had been in charge of Dent & Co.'s insurance business.

Under Mr. Ede's management the risky policy of a triennial distribution of profits was changed, and an accumulation of a reserve to provide for possible contingencies and future expansion was substituted. The wisdom of this policy is reflected by the sound position which the "Union" occupies to-day.

During Mr. N. J. Ede's time, the shares were several times divided up for the convenience of shareholders. In 1874 the original capital of 250 shares of \$1,000 each was split up into 500 shares of \$500 each. Again in 1882 the capital was sub-divided into 2,000 shares of \$125 each and three years later, in 1885, into 10,000 of \$25 each. In 1895 the paid-up capital was increased out of surplus funds from \$250,000 to \$500,000 by doubling the value of each share to \$50. Branches were established in London, Shanghai, Singapore, Yokohama and Melbourne, and in 1899 Mr. Ede retired.

He was followed by Mr. Douglas Jones who controlled the Society for a year until Mr. W. J. Saunders took over the reins of office in 1900. Under both these gentlemen the Society continued its onward march of progress. Branches were opened in Manila and Calcutta, and in 1903 another change was effected for the benefit of shareholders, the shares being raised from \$50 paid up to \$100 paid up.

In 1906 an amalgamation with the China Traders' Insurance Company, Ltd.) (now the British Traders' Insurance Co., Ltd.) was effected, and in 1907 Mr. W. J. Saunders retired.

He was succeeded by Mr. C. Montague Ede, who had then already been 24 years in the service of the Society, principally at Shanghai and Yokohama. What the Society and its shareholders now owe to him cannot be adequately described. If, as it surely can be contended, the progress of the Society up to 1907 had been wonderful, its progress since have indeed been phenomenal.

Further Branches have been established at Tokio, Hankow, Tientsin, Sydney, Adelaide, Auckland, Wellington, Sourabaya, Toronto, Vancouver, Brisbane, Perth, Christchurch and Buenos Aires. The Society has also entered the field in the following States of America:—New York, Kentucky, Massachusetts, Illinois, California, Louisiana, Ohio, Minnesota, Indiana, Missouri, Connecticut, Iowa, Vermont, Wyoming and Virginia. Numerous Agencies have also been established throughout the world.

In 1915 an offer of amalgamation was made to and accepted by the China Fire Insurance Co., Ltd., with a gratifying result to all concerned. In the same year, the Society's authorised capital was increased to \$4,000,000 by the creation of 3,600 additional shares, and in 1919 an important change was effected in the conversion into sterling and increase of the authorized capi-

tal to £2,000,000, divided into 200,000 shares of a nominal value of £10 each, upon which £4 per share is credited as paid up.

During 1919 a fusion of interests between the Society and the North China Insurance Company, Ltd., was arranged and is now in course of completion, the "North China" maintaining its Head Office at Shanghai as heretofore.

The following figures show the steady and remarkable progress made during approximately the last 50 years:—

				Income £	Funds £
1868	...	...	...	121,088	142,359
1878	...	...	...	183,622	235,498
1888	...	...	...	197,247	277,493
1898	...	...	...	250,223	479,683
1903	...	...	...	416,982	725,708
1913	...	...	...	699,201	1,267,405
1914	...	...	...	1,035,180	1,856,492
1915	...	...	...	1,444,075	2,720,192
1916	...	...	...	1,834,011	3,933,602
1917	...	...	...	2,613,352	5,010,772

The figures of the British Traders' Insurance Company are incorporated in the above from 1913 and those of the China Fire Insurance Co., Ltd. from 1916.

The aim of the Society is service and satisfaction. It is well and firmly established in the world-wide field, perpetually adjusting itself to new conditions which have to be met. That it is continually on the lookout for future development is evidenced by the recent establishment of a department for Aviation Insurance.

Mr. Crane to be American Minister at Peking

Mr. Charles R. Crane, who is already well-known in China, and who is a leading American business man and financier, is to succeed Dr. Paul S. Reinsch as American Minister at Peking. Mr. Crane recently visited China on an investigation of conditions and was largely entertained by the Chinese, who learned to appreciate his high ideals and qualities. His return will be welcomed by both officials and commercial men. This is the second time that Mr. Crane has been appointed to China, the first occasion being in 1909, but he did not then take up the position. Early in the Wilson Administration he was also offered the position of American Ambassador to Russia but he declined the post. Mr. Crane was born on August 7, 1858, in Chicago, and ultimately became President of the Crane Company, manufacturers of valves, etc., from which post he retired some years ago and enlarged his interest in public affairs. He became greatly interested in the Russian question and was a member of the special Diplomatic Commission sent to Russia by President Wilson in 1917. As vice-chairman of the Wilson finance committee in the Presidential campaign of 1912 Mr. Crane rendered yeoman service and was largely instrumental in securing the election of President Wilson. Mr. Crane is a director of the National Bank of the Republic, Chicago, and a trustee of the Municipal Voters' League, Chicago, and in other ways has been identified with the development of Chicago. His coming to China will be warmly welcomed by the Chinese, with whom his last visit brought him closely in contact, as well as by American business men and foreigners generally.

As a recognition of the invaluable services he has rendered his country, General Emilio Aguinaldo, first and only president of the short-lived Philippine Republic, will receive a life pension of P.12,000 a year from the Philippine Government. A bill to this effect was recently passed by both houses of the Philippine legislature in special session. General Aguinaldo is now in the Philippine General Hospital suffering from the aftermath of an operation for appendicitis and a general breakdown.

Making the Earth Yield Pure Water for the Filipinos

By F. J. Dolan

THE drilling of artesian wells, the construction of water systems and the purification of water, are perhaps the gravest problems which the Philippine Government has to solve; nevertheless, in no single line of endeavor has better progress been made, especially during the last eight or ten years, than in the improvement and development of water supplies.



A Typical Town Pump in the Philippines

Previous to the American Occupation little attention had been paid to the question of obtaining suitable water or of improving public water supplies. With comparatively few exceptions the 8,000,000 inhabitants of the Archipelago were entirely dependent upon surface supplies, such as rivers, shallow wells, and in many cases rainwater, often dangerously polluted.

The single municipal water supply system worthy of the name, that of Manila, was not installed until 1882, and as this water had passed through a well populated area, it was subject to frequent and dangerous contamination. There was no modern sewerage system in the Islands, not even in Manila, and the first knowledge of the value of artesian wells penetrated the Archipelago with the American forces.

In speaking of prevailing conditions in Pre-American times, the Director of the Philippine Bureau of Health has said: "The towns throughout the Islands were compelled to get their water from small rivers, springs, irrigation canals, rainwater, and any other source where water of any sort was available. Springs were never protected, wells were never covered; the rainwater collected from nipa roofs was unclean and soon became filled with mosquito larvae and other insect life."

The use of these primitive and dangerous sources of water supply has been practically abolished now, however, as most of the villages not yet equipped with artesian wells draw most of their supply from wells in neighboring towns.

A few years ago the Philippine Insular Government offered to drill wells, and, whenever practicable, to install water supply systems in connection with the wells, in any town or municipality willing to shoulder one-third of the final cost of the project, the Government to contribute the remaining two-thirds.

That the towns and municipalities have responded readily to the offer is evidenced by the fact that, at the present time, over 1,800 artesian wells have been drilled. These wells range in depth from 100 to 1,500-ft.; in a few remote cases, however, over 2,000-ft. has been drilled before striking water.

The volume of the artesian wells varies with the locality. It has been found that wells drilled close to the foot of mountains are of a much greater volume than those sunk in the low-land districts. This is due to the fact that best results in artesian well drilling in the Islands are attained when operating in thick sand and volcanic rock. Four hundred and fifty gallons a minute is the volume record for any single well, which was attained at a depth of 185-ft.

Deep-well waters in the Philippines have been found as a rule to be more highly mineralized than spring waters and at times the degree of mineralization is sufficient to render the water unserviceable for drinking purposes. The principal impurities noted in this connection are abnormally large amounts of common salt and iron. All artesian wells bored by the Bureau of Public Works pass the purity tests of the Bureau of Science before being opened to the public.

Water from shallow wells usually has only a small mineral content and is unobjectionable from a chemical point of view, but it is only with great difficulty that such wells can be kept pure and uncontaminated.

The typical surface well in the Philippines is situated in a crowded barrio, or small village, very near to cattle stables or human habitations. It is generally open and uncovered and is frequently without casing or curbing; washing clothes and bathing are commonly carried on at the well side, although no drainage for the dirty water is provided, and animals are usually allowed to run loose in the vicinity. Before the artesian well campaign of the government, no one vessel was used for drawing water, each comer bringing his own and lowering it into the well. The water in practically every surface well examined by the Bureau of Science has been shown to be dangerously polluted and absolutely unfit for human consumption; however, most of these fever breeders have been filled in by the Government.

The effect on the public health of the pure water made available has been remarkable. Some towns, where artesian water is exclusively used, have shown a 50 per cent. reduction in mortality. The first artesian waters were looked upon with suspicion by the natives, and even now, in some sections, an artesian well furnishing potable water will be abandoned in favor of an open surface well that is almost certainly polluted, but with which the inhabitants are familiar.



Large Public Artesian Well with Trough Equipment, Cebu

The movement in favor of artesian wells has reached out into the most isolated barrios and municipalities, and the bureau of public works, in accordance with the demand for better sources of water supply, has set aside P.3,000,000 to be used in the year 1920 for the construction of artesian wells.

Conditions are still far from satisfactory in many parts of the Archipelago. In too many cases dependance for drinking water is put on the nearest available source, quality often being a consideration of secondary importance.

However, great progress has been made, and it is to be hoped that this progress will continue, and that with the advance of education and improvement in the standards of living, a corresponding improvement in the systems of water supply will be evidenced.

Foreign Commerce Corporation of America

Messrs. J. P. Morgan & Co. on December 31 announced the organization of a new company to engage in international trade. In forming this company Messrs. Morgan & Co. re-enter the commercial field, in which the original house of Junius Morgan & Co. was engaged in London.

The fact that Messrs. J. P. Morgan & Co. have organized a second firm to promote foreign trade is regarded as indicating that firm's purpose to play a very important rôle in the post-war commerce of the world. While the immediate object is understood to assist in the upbuilding of trade with Europe, the firm is known to purpose extending the activities of its two corporations to all parts of the globe.

The new company will be known as the Foreign Commerce Corporation of America. It will be chartered under the laws of the State of New York. It has a nominal capital of 1,000 shares of no par value, all of which are owned by the Morgan firm.

The incorporators are J. P. Morgan, H. P. Davison, T. W. Lamont, E. R. Stettinius and also Grayson M. P. Murphy, who will resign from the Guaranty Trust Company to accept the presidency of the corporation. E. R. Stettinius will be chairman of the Executive Committee, and the directors of the corporation will be members of the firm of J. P. Morgan & Co. and Grayson M. P. Murphy.

This announcement follows the formation of the Foreign Finance Corporation, of which both Mr. Morgan and Mr. Davison are directors, the other directors being Arthur M. Anderson, J. S. Alexander, G. F. Baker, Jr.; G. W. Davison, H. D. Gibson, Seward Prosser, Charles H. Sabin, J. A. Stillman and Albert H. Wiggin. Mr. Anderson has been elected president of this corporation and is now organizing its staff. The company's activities will be devoted primarily to foreign fields.

Two distinct ends will be served by these two corporations. One is a banking, the other a commercial company. The Foreign Commerce Corporation was formed because the firm looks forward to very important developments in foreign commerce. It is perfectly apparent, said a banker, that commercial conditions have been revolutionized by the war. The old methods of conducting trade have been made obsolete because of the enormous balance of trade against Europe in the United States. It has become necessary to devise new methods of carrying on commerce.

The Foreign Commerce Corporation will do a commercial business. It will deal in commodities. It will not extend any credits excepting such credits as any commercial house would extend to assist its customers in purchasing goods. In organizing such a company, said a member of the firm, J. P. Morgan & Co. are living up to the old traditions of the house as merchants. In London the Morgan firm of Morgan, Grenfell & Co. is still regarded in the light of merchants rather than bankers.

An entirely distinct field of foreign trade will be covered by the Foreign Finance Corporation. It will do an investment business, but also with a main eye to helping Europe in its American trade. The company is designed to finance European trade through purchase of foreign investments which may be offered in exchange for American goods. These investments will be confined to private issues. The company will not invest in foreign government securities. It will survey the foreign investment field very carefully because it is quite obvious that Europe will seek to interest American capital in foreign enterprises, as it will be impossible for European countries to liquidate the huge balance of trade against them only through sale of merchandise in United States. The Foreign Finance Corporation has power to issue debentures, and probably will exercise that function at some future time. It is characterized as entirely distinct in its functions from the American International Corporation, which is largely an operating company.

No definite information has been given regarding the ultimate capitalization of the two foreign corporations just formed by J. P. Morgan & Co. A member of the firm said that their "capital will be adequate for every possible purpose."

Grayson M. P. Murphy, who leaves the Guaranty Trust Company to become president of the Foreign Commerce Corporation of America, is regarded as exceptionally qualified for heading a commercial company because of his international experience in commercial banking. Arthur M. Anderson, who has been elected president of the Foreign Finance Corporation, is the head of the bond department of J. P. Morgan & Co. He has an international reputation as an expert in investments.



Types of Systems for Public Service from Artesian Wells in the Philippines

Misusing China's Credit

NEW YORK, February 5.—In the November, 1916 number of the FAR EASTERN REVIEW, we commented upon the organization of an American commercial company whose advertised intention was to supplant Manchester in the cotton goods trade of China. The one asset of this company seemed to be a contract with certain high Chinese officials who had obtained the guarantee of their Government to the interest and principal of a \$3,000,000 bond issue, the proceeds of which were to be used in the establishment of a line of steamships operating between China and America. This contract had all the earmarks of being identical with one concluded in 1915, by Mr. Philip Manson of Washington, on the one hand, and Mr. Liang Shih-yi, Tang Shao-yi, and other Chinese officials, who had obtained the guarantee of the Chinese Government to the interest and principal on a bond issue of \$3,000,000 for the establishment of a steamship line on the other.

The weak spot of this transaction as far as China was concerned consisted in extending the government credit to a foreign company, a precedent, which, in her helpless condition, would have to be applied to other nationalities. It opened the door to graft and corruption and endless complications with other governments. Naturally, if the Chinese Government guarantees an American company whose main object was the crippling of British trade at a time when the latter could not well protect themselves against loss it was a foregone conclusion that the British Minister would promptly veto the Chinese right to extend credit in such an unwise manner. If the Chinese Government creates the precedent of guaranteeing the bonds of a company in which Mr. Liang Shih-yi, Tang Shao-yi, and their close friends are interested, then similar business deals will be consummated for the benefit of other powerful officials. If one foreign interest receives this governmental support for the sale of their bonds, then the Japanese, British, French, German, and Russian governments will bring pressure to bear on the Chinese to subsidize their nationals in similar enterprises. The principle is wrong.

This contract has again come before the public through the attack on the U.S. Shipping Board by Mr. Manson during one of the hearing before the Senate Commerce Committee on February 1. Mr. Manson's chief grievance is that the Board refused to allot his company any of the government ships. For some months he has been demanding an investigation of its activities.

Before the war he operated several steamers in the trade between the United States and the Bermudas. The Pacific and Eastern Steamship Company, of which he is the president, has \$3,000,000 in bonds, underwritten by McBee, Jones & Co., of New York, and \$2,000,000 in capital stock unissued. One-half of the value of these securities are owned by Chinese interests, the Chinese Government having guaranteed the company against loss for twenty-five years. The company, according to Mr. Manson, has decided not to buy vessels because of the high cost of construction, and has been unable to obtain allocation of ships from the Shipping Board. Pending such developments, his company has not endeavored to dispose of its securities to the public. It was said to be the purpose of the company to engage in the Far Eastern trade.

Mr. Manson said he was not operating ships in that trade because they were sure to lose and he did not feel himself justified in taking advantage of the offer of the Chinese government.

It would appear from Mr. Manson's testimony that the contract with his Chinese partners is still in existence, and the issuance of the bonds simply awaits a favorable opportunity to obtain the ships needed at a cheap price. If Japanese or British interests obtained such a concession from the Chinese Government an immediate protest would be registered by Americans in China. An immediate and frank pronouncement of policy should be made by American, British and Japanese organizations in China against this misuse of China's credit for the benefit of favored officials operating in conjunction with the subjects or citizens of other governments.

G. B. R.

Riveters to Ruin Old Japan

A sordidly commercial article was printed the other day, to the effect that a New York firm had secured a \$5,000,000 contract for the construction of modern fireproof hotels, apartment houses and office buildings in Japan, which would have brought grief to the heart of the late Lafcadio Hearn. Such a statement shows how rapidly Japan is being occidentalized—a process which was fast enough in Hearn's day, but which has been accelerated almost past all belief in recent years.

Japan has made plenty of money out of the war and evidently intends to spend it. She is going to provide herself—even with the danger of earthquakes—with buildings of a type different from the sort to which the Japanese have been accustomed for centuries in order to keep pace with modern progress.

Shovels, high speed hoists and other equipment are being forwarded to Japan, and soon the familiar sounds made by the riveters will be heard in Tokio and Yokohama, and the Japanese skyline will be invigorated with a picture of an American riveter swinging out on a big girder hundreds of feet above the heads of the wondering Oriental populace.

Hearn in one of his books devotes a chapter to the "delightful impermanency" of Japanese life. He points out that it is all part of the Japanese scheme of things—the houses that can be put up and taken down in a day or so and which are devoid of furnishings.

He decried the "modern" spirit which was then inducing the Japanese to put up long, low wooden sheds, to be utilized as factories. In those sheds costly materials are being made which formerly were turned out in the Japanese artisan's home. Hearn could not see a still greater change coming, the change wrought by the first American office building, of steel and concrete construction, strong enough to defy earthquakes.

Also the rest of Hearn's picture of "impermanent" Japanese life seems in a fair way to be changed completely. He speaks of the contented life of the workman, who, according to the literary artist's picture, was a shade "trampier" than any of our old time journeymen in the early days of this country. These workmen in Hearn's day were accustomed to flit from one town to another, or to spend long days on the beautiful roads of Japan, doing just enough to furnish themselves with the means of bare existence, and to put it bluntly, living lives which closely approached the life of the "hobo," plus poetry which the average knight of the road in this country never has had in his system.

But with the coming of the big office buildings and the steel and concrete factories such a life must of necessity vanish altogether. The Japanese have been pretty hard at work during the last few years. Their business has been well organized, and the reaching out for better factory and office conditions is merely in line with the general business progress.

The populace has made so much money that the tramp artisan has found it well to stay at home. He no longer flits out on the highway among the cherry blossoms, just to satisfy the longings of his poetic soul, but stays at home and adds to the individual bank account by doing profitable work for some manufacturer who has a little corner of the Western market all his own and who is getting prices that enable him to pay his help many times what the old artisans got for their imperishable products.

Altogether it's a changed Japan, and one can imagine the shudder that will convulse the island when the first American riveter arrives at Tokio and says:

"So this is Toke, hey! Well, let's cook up a few hot ones and get the old put-putter busy. It's too darn quiet here for any use!"

The above article, from the "New York Sun," has reference to a contract recently secured by the George A. Fuller Company, 175 Fifth Avenue, New York, for the erection of modern fireproof hotels, apartment houses and office buildings—calculated to withstand earthquakes—in various Japanese cities, totalling some \$5,000,000. Engineers and constructors of the first contingent sailed for Japan from America in January, and modern equipment including shovels and high speed hoists, valued at approximately \$150,000, were also shipped to Yokohama. Mr. H. A. Harris will be in charge of the office of the Company in Tokyo.

Industrial Progress in Japan Promotes Introduction of American and Foreign Machinery

The industrial progress of Japan has been especially rapid during the period of the war and has been promoted to a large degree by the introduction of American and other foreign machinery. This industrial expansion is, to a great extent, quite recent, but in making the change from the many ancient methods formerly employed there is put into operation almost every type of machinery which other foreign nations have spent years in perfecting.

An idea of the increasing market for machinery may be obtained from the following table, which covers the imports of machinery and parts of machinery into Japan for the past five years: 1918, \$29,248,999; 1917, \$14,918,758; 1916, \$8,135,407; 1915, \$4,532,184; 1914, \$12,471,182.

As Japan was securing a large percentage of its imports from Europe prior to the war, it will be noted that imports fell off considerably during 1915. However, during the same year the United States increased its share of this total from 20 to 32 per cent. and that of Germany decreased from 22 to 6 per cent. From that year to the present date the percentage of American machinery imported has continued to grow, until at the end of 1918 the United States was credited with over 80 per cent. of the total. An idea of the rate of increase in the sale of American machinery to Japan during the period of the war may be obtained from the following table:—

Year.	From United States.	From Great Britain.	From Germany.	From other countries.
	Percentage.			
1914	20	54	22	4
1915	32	58	6	4
1916	48	43	—	9
1917	57	38	—	5
1918	80	16	—	4

The principal types of machinery in the order of their importance and value of imports into Japan during 1918 follows:—

Machinery	Value.
Spinning machinery	\$4,278,916
Steam boilers and accessories	3,767,635
Metal and wood-working machinery	3,320,892
Electrical machinery (all classes)	1,530,685
Sewing machines and accessories	1,544,424
Endless felts for paper making	1,316,675
Carding cloth	760,327
Gear cutters	603,667
Paper-making machinery	560,235
Gas compressors	501,059
Pumps	419,905
Pneumatic tools	367,610
Endless metal nets for paper manufacturing	345,786
Weaving looms	328,872
Iron rollers	321,054
Cranes	255,744
Gas and petroleum engines	252,728
Steam engines	231,665
Capstans and other winding machines	187,602
Locomotives and tenders	149,148
Hydraulic presses	142,137
Steam turbines	137,670
Printing machinery	119,710
Other machinery	7,804,853
Total	\$29,248,999

As a result of these extensive imports the manufacture of various types of machinery has increased quite rapidly. The following figures show the value of exports of machinery from Japan during the past five years: 1918, \$7,898,268; 1917, \$4,597,023; 1916, \$4,234,170; 1915, \$992,835; 1914, \$634,483.

Japanese Paper on Chinese Loans.

The Japanese paper *Nichi-Nichi* recently remarked that China is an international prodigal son who has no qualification to borrow money. It is regarded by certain of the Powers as an inevitable fate that every loan contracted by her will but carry her a step further towards an international administration of her finances. It is significant that lately the foreign papers in China have cried loudly that loans will lead to the downfall of the country, and have showed themselves sympathetic with the refusal of loans.

Which of these two attitudes is the Japanese Empire to encourage? asks the *Nichi-Nichi*. Does she intend to agree with the Powers in adopting the measure of financially placing China under an international administration or to refuse loans to China with the intention of awakening this country.

The recent loan (Y.9,000,000) is reported to be for supplementing the deficiency in the administrative expenditure of the Peking Government, and the proposed loan of £5,000,000 is equivalent to Y.20,000,000 or Y.19,000,000, supposing the net receipt to be 95 per cent. According to the conditions this sum is to be used not only to defray administrative expenses but also for disbanding troops. It is stated that there should be a reconciliation between North and South and that the use of the money be subject to control and supervision. This seems ridiculous, declares the *Nichi-Nichi*, with regard to the loan just made, as the sum of Y.10,000,000 will just suffice for the Peking Government to pull through the year-end monetary difficulties and excite the jealousy of the South.

So far as supervision of Chinese expenditure is concerned, remarks the *Nichi-Nichi*, past experience shows it to be hopeless in practice. While these conditions are impossible in connection with an emergency loan, they are sound ones for the larger readjustment loan that is forthcoming. The Powers will then wisely insist on a reconciliation of North and South, and, as the *Nichi-Nichi* says, "exercise more strict supervision over the use of the money or adopt some surgical measure which will be more efficient and thorough going than any method of supervision which has been tried so far with such unsatisfactory results. In this way, Chinese finances will be placed under the joint administration of the Powers. This has taken the form of a national loan adjustment committee in Egypt, and in China it will take the form of a national expenditure supervising committee."

Japanese-American Entente

A group of ten to twelve important American business men, who believe that the differences between the United States and Japan can be settled in a friendly spirit, set out for the Orient on February 28.

In the party are Wallace M. Alexander, of San Francisco, interested in manufacturing, shipping and in sugar production; Frederick J. Koster, of San Francisco, manufacturer, a director of the Chamber of Commerce of the United States; Doyall A. Osborne, vice-president of the Westinghouse Electric and Manufacturing Company; William T. Sesnom, former president of the Chamber of Commerce of San Francisco; E. R. Behrend, head of the Hammermill Paper Company, of Erie, Pa.; R. B. Hale, owner of a chain of retail stores on the Pacific Coast, and Walton M. Moore, a well-known retail drygoods merchant of California. It is not yet known who are the other members of the informal mission. Several foremost Eastern bankers have been invited.

The object of the expedition is to bring to Japan the ideas and the personality of representative American men of affairs on the assumption that their mingling with Japanese leaders will make for better understanding. It is proposed to discuss with all frankness and openness the sources of irritation in the relations between the two countries, and it is hoped that out of the unofficial conferences a better feeling between the two peoples will result.

One of the main objects of the informal mission, which was initiated by the Japanese Relations Committee of San Francisco, is to build up a substantial public opinion in Japan in favor of friendly relations with the United States. It is hoped too, by the sponsors of the movement, that American public opinion will also be captivated by the dynamic idea of removing causes of distrust.

The American section of the Japanese Relations Committee was formed in 1915 after Baron Shibusawa visited in the United States, and a Japanese section was organized in Tokio. The suggestion for the forthcoming conference originated in Japan.

The Hing Wah Paste Company.

One of the most notable developments in the business life of Hongkong is the Hing Wah Paste Manufacturing Company which, with offices at Connaught Road Central, have large and continually increasing factories off Jordan Road, Causeway Bay. Here, the firm manufactures a great deal of cereal food, such as macaroni, egg-noodles, etc., and so large has its business grown that a new factory became necessary and this was opened some little time ago by the Hon. Mr. Lau Chu-pak, who is the

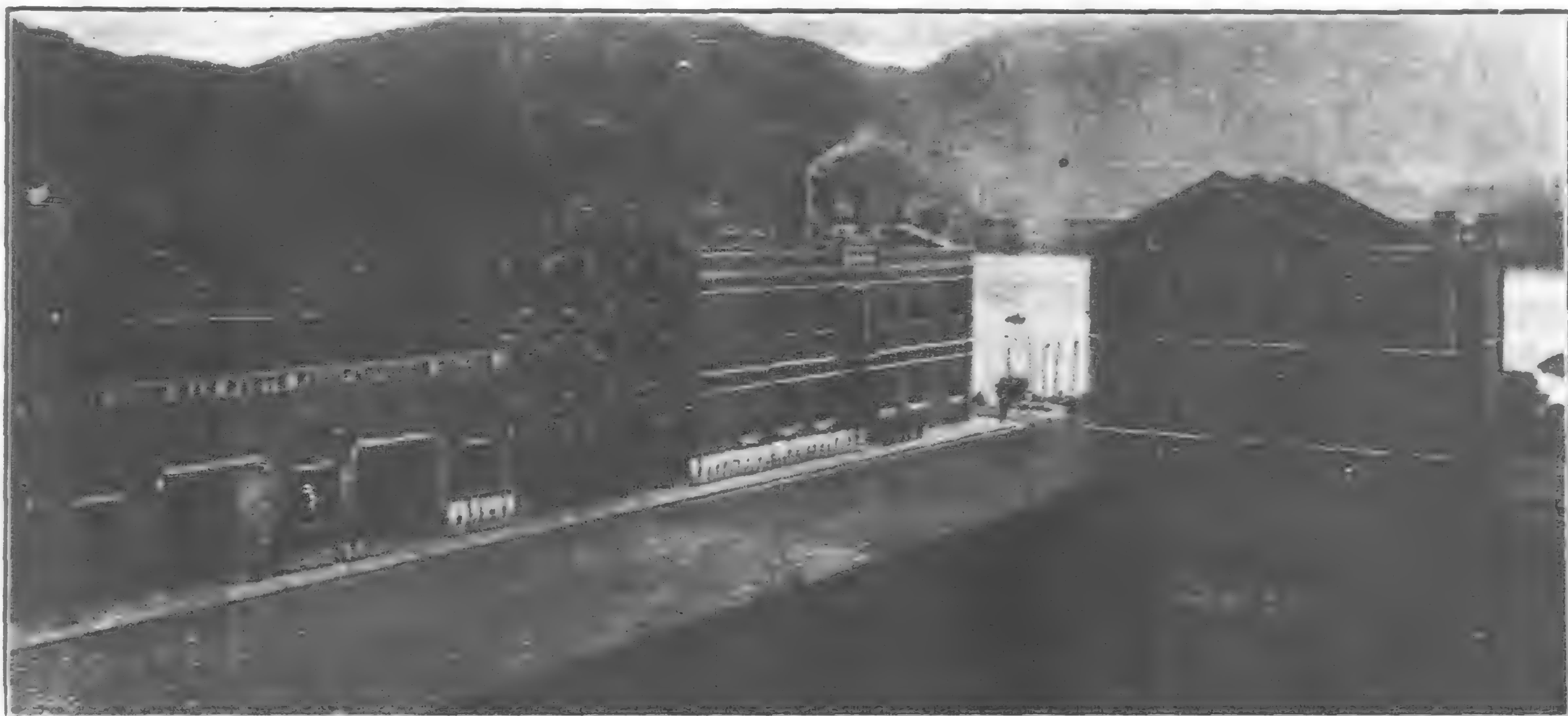
been many such undertakings, but, with one single notable exception they have somehow never developed to any appreciable extent.

The Hing Wah Paste Company was formed in Shanghai in 1916, as a private company registered in Hongkong, with a capital of only \$60,000. In less than two years their productions became widely known, not only in China, but also in Europe and America and in the East Indies, and in other parts of the world. Indeed, the demand for the Hing Wah noodles, etc., was so great that the factories, though taxed to their utmost capacity, were unable to meet it. In order to cope with this



Mr. SUI NAI-LUN

The Chief Manager and Director of the Hing Wah Paste Manufacturing Co., Ltd.



Exterior of the Hongkong Factory

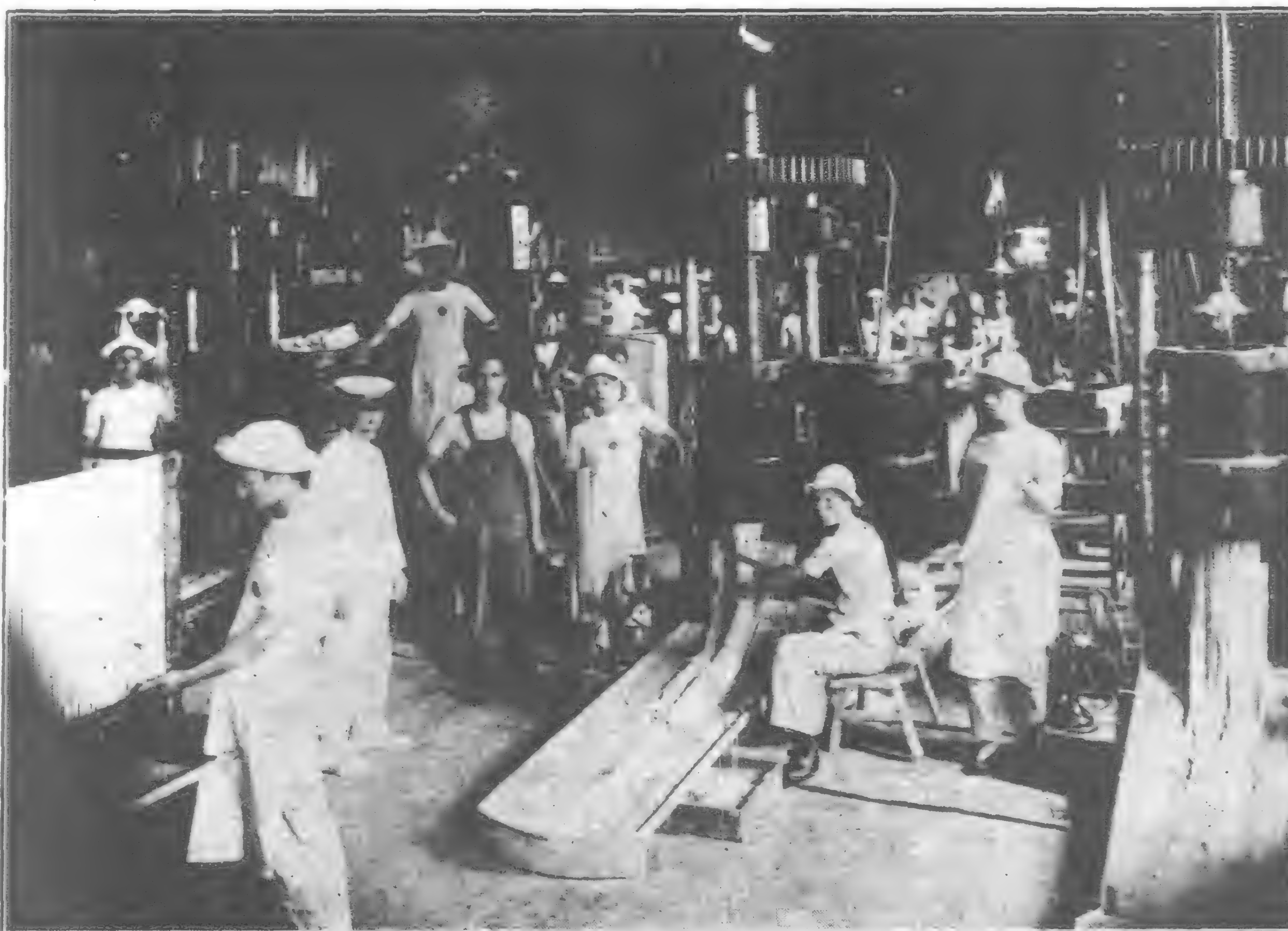
head of the Company. The building is a fine large one, equipped with first class machinery, and the various goods are manufactured under conditions which would satisfy the strictest Sanitary Inspector.

The enterprise is typical of many in Hongkong at the present time. It is purely Chinese, and is already known to the four corners of the earth, to which, in ever increasing quantities, the manufactured goods are sent. To the Colony of Hongkong such an enterprise is not without its significance. Industry in Hongkong is being promoted, and the Chinese are foremost in this promotion. Owing to the continued unrest in the interior of China, where want of protection to life and property and absence of trade facilities are keenly felt, the number of business men, Chinese, who have transferred their commercial activities to the Treaty Ports and to Hongkong, has been steadily on the increase, for in these places law and order prevail, which afford a safeguard to their capital, and helps them to reap the rewards of their enterprise and labor. Further, Hongkong is a suitable place for such factories as that of the Hing Wah Paste Co., inasmuch as there is an unlimited supply of labor.

One of the outstanding features of the Hing Wah Paste Company is that it is an industry solely supported by Chinese enterprise. There have in the past

state of affairs the capital in 1918 was increased to \$200,000, and the Company was re-constructed as a public company with Head Office in Hongkong. Since then the capital has been increased to \$1,000,000.

Nor has Shanghai been neglected; there are already works there, but these are to be considerably enlarged. Mr. Sui Nai-lun, the Chief Manager and Director of the Hing Wah Paste



Interior of the Shanghai Factory

Manufacturing Company, Ltd., has recently returned to the Colony from Shanghai after having made improvements in the business of the Company in the North. He also arranged for the erection of a new big flour factory in Shanghai. It is stated that the Company will have three principal Branches established in the North, one in Shanghai for handling its business in the provinces along the lower Yangtze, the second in Hankow for the provinces along the Upper Yangtze and the third in Tientsin for the provinces in the North, the three Eastern Provinces, Manchuria and Mongolia. While Mr. Siu was in the North he was warmly welcomed in official, commercial and industrial circles and many shares in the Company were taken up.

North China's Commercial Weather Gauge

THE NORTH CHINA DESK HONG LIST, 1920. A GENERAL AND BUSINESS DIRECTORY FOR SHANGHAI AND THE NORTHERN AND YANGTZE RIVER PORTS, ETC. ISSUED BY THE NORTH-CHINA DAILY NEWS AND HERALD, LTD., SHANGHAI.

The 1920 North-China Desk Hong List appears in its familiar red cover and maintains its excellent standard of clearness and style. Some idea of the work of producing a directory in China may be gathered when the reader is informed that over 22,000 corrections have been made in this edition alone. The increasing changes that inevitably take place throughout the Ports make the work more difficult, yet despite this fact there are few typographical errors. The book contains many more pages than the preceding edition and it is interesting to learn that the addition is mostly due to the growth of Shanghai. New foreign hong and businesses, listed since the 1919 edition, make a total of nearly 200, with over 50 Chinese firms. Import and export firms head the list with something between 60 and 80, whilst Commission Agents are a close second. Resident representatives are gradually increasing and so too are the professions. The Residential Section shows an increasing number of foreign residences every year, whilst the Shanghai Who's Who Section intimates an increase of nearly 1,000 foreigners since 1919.

Amongst the new headings we notice "Shipping" and the "Shanghai Business Directory." The majority of firms appear under this latter heading.

The Shipping Section, containing as it does the naval squadrons at Shanghai and on the Yangtze, and the merchant steamers, together with their foreign staffs, will prove of infinite value to those interested in shipping. It would perhaps enhance the value of this section if the staffs of the boats appeared in the Shanghai Who's Who to facilitate the location of individuals.

The Business Directory, an entirely new section, is what has been badly needed for some time past. Shanghai is growing every year and it becomes increasingly more difficult to keep touch with the activities of various firms and the location of new ones. The list is well thought out, being doubled up into three columns and compressed as much as practicable, and is dealt with in an entirely independent way. Between 1,000 and 2,000 firms and businesses are listed under their particular business headings in this section and although the work is in nowise complete, the succeeding editions should prove of inestimable value to merchants and newcomers alike.

A suggestion might here be made to include Agencies. There would seem to be no direct way of obtaining such information and unless one knows the local representative or firms carrying such agency it is almost an impossibility to locate same. With the growth of this city it becomes more and more necessary to have first hand direct information.

The Missionary Section shows an increase of nearly 2,000 missionaries and 600 missions and to those who desire trade information of the interior this section is of value. Very little change has taken place in the Railway Section or the Outports, but one notes that outport hong have slightly increased, which naturally increases the foreign residents proportionately.

Shortage in Abaca due to Pests

Indications of a growing shortage in the production of abaca in the Philippine Islands have been showing from time to time since the new year, the latest discouragement being two insect pests that have appeared in abaca plantations in Davao and Samar. A memorandum of the Bureau of Agriculture of the Philippine Islands on these pests says, in part:—

"One is known as *Thosea* species, a lepidopterous insect, and the other is a leaf miner. The former named pest has been identified by the pest control section of the Bureau of Agriculture. The latter named pest is being studied.

"The pest known as *Thosea* species at its larval stage, attacks coconuts, abaca and other growing plant life and eats the entire leaf, leaving only the stem of the leaf. The leaf miner eats the under side of the abaca leaves, after which the leaves die.

"The above-mentioned pests have become very prevalent in the Davao gulf abaca plantations, where they are destroying large areas of growing abaca. On one abaca plantation alone, the leaf miner has attacked over 20,000 abaca plants. The pest known as *Thosea* Sp. is prevalent throughout the Davao gulf region, but is more numerous in the neighborhood of Lais, Davao."

Abaca planters of the Davao gulf region are becoming alarmed and have requested assistance from the Bureau of Agriculture in an endeavor to control these pests. Whatever the total production may be, a great effort is being extended by the Government experts to reduce the production of low-grade fiber. It is claimed that this campaign will reduce the total yearly output by at least five per cent. as compared with the output of 1919, when more than fifty per cent. of the output of 1,166,000 bales was of low-grade fiber.

Hanson and Orth's monthly statement for January, 1920, shows that 540,821 bales of abaca were sent to the United States in 1919, as compared with 690,258 in 1918 and 735,735 in 1917. There were 73,000 bales of abaca *en route* from Manila to the United States at the time that this report was compiled.

Exporters Adopt Uniform Foreign Trade Language

Instead of a babel of tongues, American exporters now have a uniform language for foreign trade. A standard meaning of common export expressions was recently agreed upon at a conference at the India House, New York, attended by representatives of the National Foreign Trade Council, National Association of Manufacturers, American Manufacturers' Export Association, American Exporters' and Importers' Association, New York Produce Exchange, the Merchants' Association, the Chamber of Commerce of the United States, the Chamber of Commerce of New York, the Philadelphia Commercial Museum and the Bureau of Foreign and Domestic Commerce.

To end the interminable wrangles between domestic sellers and foreign buyers as to precise obligations implied by the expressions, f. o. b. (free on board), f. a. s. (free alongside ship), c. & f. (cost and freight), c. i. f. (cost, insurance and freight) and l. c. l. (less than carload lot), these authoritative trade bodies have worked out official interpretations, which shall be accepted as the standard in dealing with their members. This codifying of the unwritten laws and customs of foreign business was undertaken partly as a result of urgent requests from the American Chamber of Commerce in London and the American Chamber of Commerce in Mexico. The definitions will be disseminated in all parts of the world by private trade bodies and the Bureau of Foreign and Domestic Commerce.

Referring to the common expressions used in export trade, a joint statement said: "These are the normal situations on which an export manufacturer or shipper may desire to quote prices. It is understood that unless a particular railroad is specified, the property will be delivered to the carrier most conveniently located to the shipper. If the buyer, for the purpose of delivery or in order to obtain lower transportation charges, desires that the goods be delivered to the carrier further removed from the shipper and entailing a greater cost than delivery to the carrier most favorably situated, the carrier to which the buyer desires delivery of the goods should be named in the quotation. The term 'carrier' or 'railroad company,' as used herein, applies to river, lake or coastwise steamship companies, canal boat companies and barge lines, when so specified in this quotation."

A motion by O. K. Davis, secretary of the National Foreign Trade Council, that the entire phrase, such as "free on board" instead of the initials "f. o. b." should be used in specifying terms, was adopted.

Rail-and-Water Link Facilities in Japan

THE harbors in Japan have mostly been left in their natural state, and it is only within the last twenty years that the authorities have been awakened to the necessity of reconstructing some of the more important harbors, the accommodation of which had become quite inadequate to meet the requirements of the growing trade. Some projects have since been started by the Railways for improving the rail-and-water link facilities at several ports, including Yokohama, Nagoya, Mikuni, Osaka, Shimonoseki, Moji, Hakodate, Aomori, Otaru, and Muroran, but little has as yet been done in this direction.

Yokohama Harbor.—The reconstruction of the Yokohama harbor was started, in 1899, by the Finance Department, and the reclamation, the provision of new quay-walls, and other works were partially completed by 1907, when the Railway Board proceeded to lay double-tracked chord, connecting the new pier with Yokohama station, for a matter of 50 chains. This line is, for part of the way, located upon the reclaimed ground and passes over the canals by two bridges, built to allow the passage of lighters. The cost of construction of the chord and connected works amounted to Y.508,000.

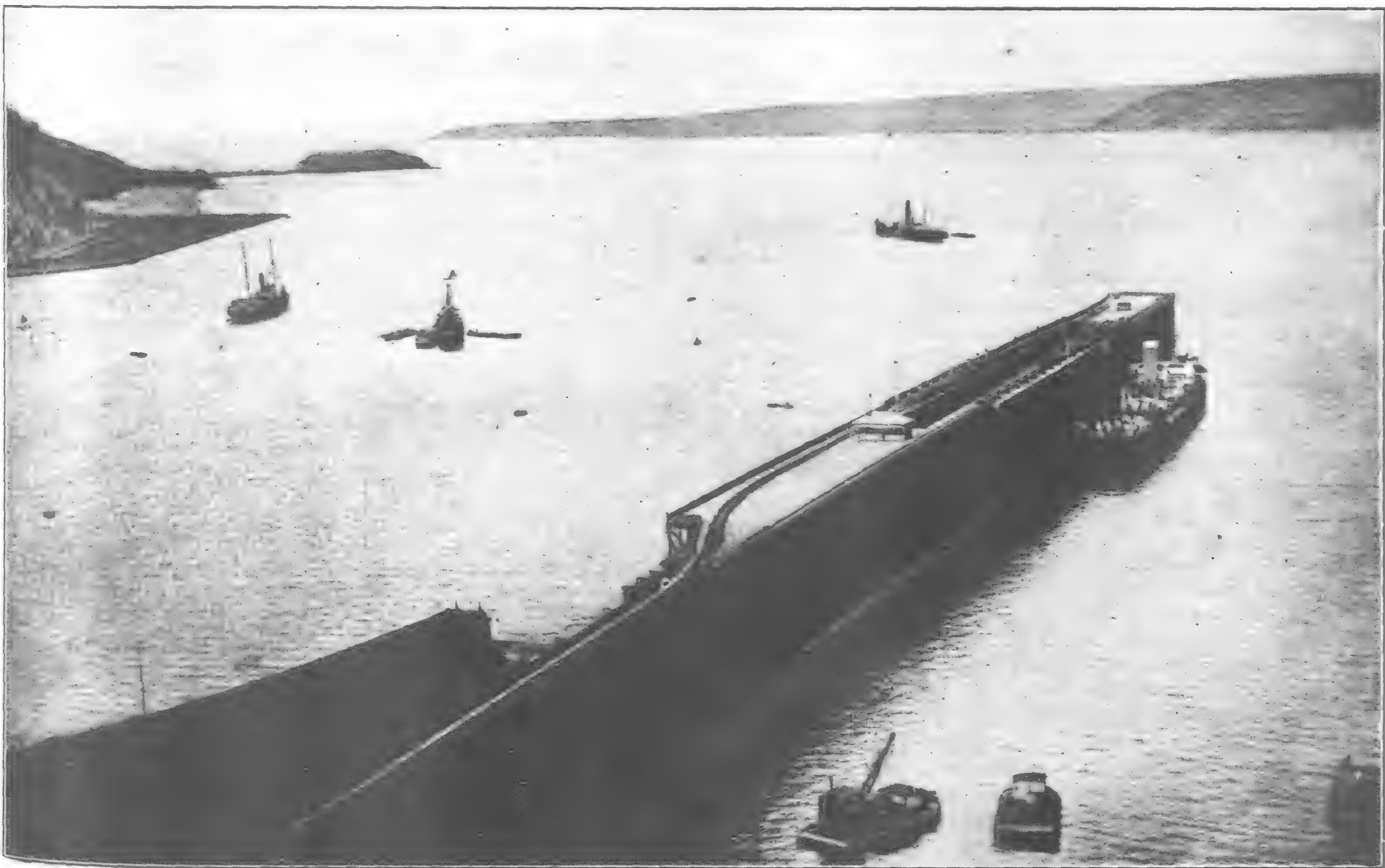
Nagoya Harbor.—Upon the completion of the harbor works at Atsuta near the city of Nagoya, a 5-mile single track was laid to bring the new port into connection with Nagoya station. On the other hand, a spur branching off therefrom was laid to the timber yard at Shiratori, which yard is under the management of the Department of the Imperial Household. Altogether Y.970,000 was expended upon the laying of the branches.

Osaka Harbor.—The harbor works at Osaka were started in 1897 and partially finished as regards dredging, the provision of the breakwaters, and the construction of the pier. As a temporary expedient, pending the completion of the whole works, it was decided, in 1910, to extend the Osaka-Ajikawaguchi section of the line and link it up with the sidings in the shore station yard

of Sakurajima by means of two-sided piers, which are designed to accommodate large ships of between 1,000 and 4,000 tons. The extension has cost about Y.470,000, and Y.6,000,000 will be required for the laying of the projected line branching off at Imamiya on the Kansai Line and leading to the pier of the reconstructed harbor. The work is expected to be started next year.

Hakodate and Aomori Harbors.—The through traffic service between the Main Island and Hokkaido is effected by ferry boats run by the Railways. Upon the completion of the new breakwaters at Hakodate harbor, the Railways proceeded to build wooden piers, 550-ft. by 44-ft. and by 165-ft. on the reclaimed ground contiguous to the station yard. The total cost amounted to Y.450,000. The Railway Management contemplates erecting a special pier in the harbor of Aomori, too, where the reconstruction work is now going on.

Otaru Harbor.—Otaru is one of the principal gates of Hokkaido for both exports and imports. In response to the growing demand for the improvement of its harbor facilities, the provision of breakwaters was early taken up by the Government. The Hokkaido Colliery Railway Co. also projected the extension of Temiya station, contiguous to the port, and proceeded to reclaim the foreshore to the extent of 102,700 square yards. As a result of the nationalization, however, the work was taken over by the Railway Management, which, with the idea of equipping the land with exclusive facilities for the exportation of coal, provided a coal yard and an overland pier. At the same time a coaling pier, measuring about 1,000-ft. long, 7-ft. wide, and 60-ft. high, was built into the sea, so that the cars might be unloaded direct into the bunkers of vessels moored alongside the pier. The pier can deal with more than 1,000,000 tons of coal per annum. In view, however, of the fact that the reclaimed land at Temiya is able to handle only one-third of the traffic



Elevated Pier, Muroran Harbor, Japan

from or to the port of Otaru, another and more ambitious project for land resumption is now contemplated on the opposite side of the city. About Y.5,250,000 will be required for the new project, which involves the reclamation of the foreshore for 493,750 square yards. Start was made with a part of the work.



Coaling Pier, Muroran Harbor, Japan

Muran Harbor.—A similar reclamation work has been carried out in the harbor of Muroran, which has recently acquired importance as an outlet for coal from the Island. The foreshore was reclaimed to the extent of about 94,800 square yards, the coal yard enlarged, and an overland pier and a coaling pier, 1,200-ft. long, 70-ft. wide, and 63-ft. high, were provided. At the same time the foreshore was dredged to a depth of more than 28-ft. below the low tide level.

These improvements have increased the coal-loading capacity of the harbor from 800,000 tons to 1,200,000 tons. Then, to provide track facilities for timber and general commodities, a similar work to reclaim the foreshore west of the main building of the station was projected to the extent of 169,850 square yards, and it has been brought to the verge of completion. The total cost is expected to amount to Y.2,370,000.

New Engineering and Shipbuilding Works

At the annual general meeting of the shareholders of the New Engineering and Shipbuilding Works, held at the Chamber of Commerce Rooms, Shanghai, on March 19, Mr. H. E. Arnold, who presided, reviewed the working of 1919 as a most successful year, and proposed resolutions for the payment of a dividend of 20 per cent. as well as a bonus of 40 per cent. He pointed out that the balance of profit and loss account, including Tls. 33,700.18 carried forward from 1918, was Tls. 831,587.23, which was dealt with as follows:—

To pay a dividend of 20 per cent.	Tls. 129,335.00
To pay a bonus of 40 per cent.	„ 258,670.00
To write off new plant... ..	„ 100,000.00
To place to reserve fund	„ 259,500.00
To place to dividend equalization fund	„ 25,000.00
To donate to patriotic funds	„ 20,000.00
To carry forward balance	„ 39,082.23
	<hr/>
	Tls. 831,587.23

The actual Capital working in the business last year amounted to between 35 and 40 lacs and the profit gave a return on the funds utilized in the business of approximately 22 per cent.

During the year the Company built two steam steel towboats, two steel and wood steam and motor launches, four composite motor vessels, one steel pontoon and two steel lighters, in addition to a large amount of repair work. Satisfactory progress has been made on the four 2,000-ton steamers, the first of which has been launched and will shortly be delivered to the owners, and the remaining three vessels will be completed and delivered this year.

The Company has also in course of construction one steel towboat, two steel launches, three steel lighters, four steel pontoons and one motor launch. Further contracts have been entered into for the construction of two 2,600-ton steel cargo steamers, one steel light tender, two steel lighters and one motor launch.

The following amendment to the resolution (b) was proposed and carried:—

- (a) That the paid-up share Capital of the Company be increased from Sh. Tls. 646,675.00 to Sh. Tls. 750,000.00 by the issue of the 20,665 shares being the balance of the unissued shares of the Company, ranking for dividend and in all other respects *pari passu* with the existing shares of the Company.
- (b) That the said 20,665 shares be offered in the first instance at a premium of Tls. 15.00 per share to the members of the Company in proportion as nearly as may be to the number of shares held by them respectively on the 8th day of April, 1920, but so that no fractional part of a share shall be issued, and upon the footing that the full amount of each share taken up plus the premium (making together Tls. 20.00 per share) shall be paid to the Company upon acceptance of the offer, and that such offer be made by notice specifying the number of shares to which the member is entitled and limiting a time within which the offer, if not accepted by payment, will be deemed to be declined, and that the Directors be empowered to dispose of the shares not taken in response to such offer, as also any surplus shares, in such manner as they think most beneficial to the Company.

American Steamships for China Coast Trade

The creation of a Government corporation in America to sell, lease and operate vessels, pending such a time as all vessels now owned by the Government shall be turned over to private interests, was advocated before the Senate Committee on Commerce by Judge B. S. Grosscup of Seattle, counsel for the Pacific Steamship Co. Judge Grosscup took the ground that an adequate, successful American merchant marine could not be developed and kept going unless it was fostered by the Government to the extent of helping private concerns in the establishment of new routes.

Judge Grosscup made the point that the primary purpose of the merchant fleet was to serve the Government and the people of the country as a whole rather than the shipping interests. He also expressed the opinion that all vessels should be held under the American flag to be ready for war emergency. This point was brought out when he advocated the retention under the American flag of the smaller types of vessels as well as the larger ones.

To begin with, he said, a Government corporation should be created to take complete charge of the fleet, to sell the ships that ought to be sold and to aid American operating companies by easy terms and co-operation in other ways in developing new routes. For example, it would be the duty of this corporation to meet with operators who desire to open up new routes and to go into their plans with them thoroughly, helping them to so balance their fleets that they would have fast transoceanic vessels, slow vessels and mixed passenger and freight vessels, with smaller ships doing coastwise work in foreign waters to act as feeders for the main fleet.

The corporation should be given broad discretionary powers so that it would operate in a less cumbersome manner than the Shipping Board now acts, according to Judge Grosscup, and as an incentive to private operators it should sell them ships at a rate below the so called market rate so the cheap initial cost would serve in lieu of a subsidy to put them on equal operating terms with foreign competitors. He declared it impossible to compete under the present initial cost.

Judge Grosscup's advocacy of the sale of the smaller vessels at a practically nominal cost carried the discussion into a wide field.

Judge Grosscup pointed out that they might never be run at a profit in themselves, but that if they were barely self-supporting or even were operated at a loss they would be valuable if used as feeders in the Mediterranean, the Baltic and the China coast, for transoceanic fleet. He took the ground that they would bring better results in this manner than if sold to foreigners, since the money they would bring in sales would not be sufficient to build many new big vessels.

Mr. Lamont in the East

Mr. Thomas W. Lamont, of J. P. Morgan and Company, is now in China in connection with the proposed Consortium loan to China. He spent some time in Japan discussing with the bankers of that country the details of the proposed Consortium and the possibility of co-operative effort between America, Great Britain, France and Japan in the development of public enterprises in China. In the party with Mr. Lamont are Mr. Martin Egan, assistant to Mr. Lamont and a member of the staff of J. Pierpont Morgan; Mr. Jeremiah Smith, Counsel for Mr. Lamont; Mr. J. Ross Tilford, secretary of the American Group; Mr. Richard Wood Randolph, formerly chief engineer of the American section of the Hukuang Railway project; Dr. John A. McCreery, and Mr. and Mrs. Jesse Lynch Williams, a noted author and playwright.

Mr. Lamont is one of the outstanding figures of international finance. For ten years he has been a partner in the Morgan houses—J. P. Morgan and Company of New York, Drexel and Company of Philadelphia, Morgan, Grenfell and Company of London, and Morgan, Harjes and Company of London—and one of the leaders in their manifold activities, domestic and foreign. His rapid rise and successful career typify the great boast of American life that opportunity always is open to the man of ability and character. He went to New York an unknown young man without resources except an excellent education, the quality of a fine old family and those assets which come from the good parental home. In his early thirties he was one of the organizers and vice president of a great American bank, at forty the late J. Pierpont Morgan invited him to join his houses as a partner.

Mr. Lamont prepared for college at Exeter and entered Harvard in 1888. It was a class that contained many young men destined later for notable careers in American life, but there was common recognition of the ability and character of Mr. Lamont and he soon became an acknowledged leader among his fellows. He wrote a good deal at college, developing an interest and quality in literature that he inherited, and for a time contemplated a career as a writer. Soon after graduating in 1892 he accepted a position on the staff of the "New York Tribune," then under the personal direction of the late Whitelaw Reid. He remained in journalism only a few years, but he has continued his interest in letters and his contributions to contemporary financial literature are notable. He left journalism for business and assisted in founding a mercantile house in which he retains a substantial interest and a consulting supervision.

Mr. Lamont's ability attracted the attention of New York financiers and business men and when a group of them formed the Bankers' Trust Company, now in the first rank of such corporations, he was asked to join its staff and devote all of his time and talents to its upbuilding. His service in the United States was so conspicuous that he was offered and accepted the vice-presidency of the First National Bank. There again he served with distinction, resigning to accept partnership in the Morgan houses. Up to this time his work and studies had been directed largely to railway and the larger industrial and commercial financing and this was the scope of his first activity with Mr. Morgan and their associates. Later he was to interest himself in British, French and Far Eastern financial problems and speedily to claim place in the front rank of world experts.

Probably his most conspicuous service relates to the world war and the peace that terminated it. When Germany struck, the Morgan houses placed their services and their resources at the disposition of the Allies and it fell to Mr. Lamont and the American partners to arrange credits for them in the United States upon a scale never before attempted or contemplated, and to place contracts for munitions, supplies and foodstuffs in stupendous quantity. They carried the burden until relieved two years later by the United States Government itself, upon entry as a combatant on the side of right, and in that time they provided enormous credit for the Allies, and placed record contracts.

Following these tremendous operations the firm tendered their service and resources to the United States Treasury and Mr. Lamont was first called upon to serve the Treasury as one of its representatives in the American delegation to the Peace Conference at Paris. The latter experience renewed and extended his acquaintance with Japanese statesmen and financiers and increased

his interest in the financial problems and relationships of the Far East. Since returning from Paris, Mr. Lamont has been active in stimulating American interest in the serious financial problems that harass some of the European Allies of the United States and in arranging loans and credits to tide them over the difficulties of reconstruction and readjustment. He also has labored incessantly for the ratification of the Treaty of Peace and the establishment of the League of Nations.

Mr. Lamont's interests are not confined to finance, but embrace a notably wide range. He often has been compared in the catholicity of his interest to the late President Roosevelt and his associates admit that he can carry forward simultaneously a wider range of work than any of them. He has labored long for the improvement of educational methods, and has been active in promoting the affairs of Exeter Academy, Harvard and Smith Colleges, the latter a great institution for the education of women. He is an active Trustee of the great Foundation for the Advancement of Teaching, established by the late Andrew Carnegie.

His interest in journalism continues and he recently purchased the "New York Evening Post," an independent liberal organ of wide influence, which he placed under the control of a group of distinguished citizens as trustees. He has supported and worked in various charitable and humanitarian movements and has contributed to the improvement of the American drama and stage. He plays a reasonably good game of golf in and out of season and he cruises and fishes in his vacation time, which he shares in unbroken comradeship with Mrs. Lamont and their four children.

In politics he is a liberal and in person democratic, friendly and candid.

P. 12,000,000 Port Improvement at Manila

The Senate of the Philippine Islands has recently passed in special session a bill authorizing the floating of a P.12,000,000 bond issue for the development and improvement of the port of Manila. The measure was passed on the last night of the regular session by the lower house during the regular period, but was not acted upon by the Philippine Senate.

This money will be spent in developing the present waterfront and in building the new dry dock that has long been a proposed addition to the harbor equipment.

A free port bill was also presented at the special session, and, although it has not been passed upon as yet, it is confidently believed in official circles that its passage is assured. The area mentioned in the bill as the site of the prospective free zone is in the Tondo north shore waterfront district, the same section that was examined and approved by Paul P. Whitham, United States Trade Commissioner.

Peking papers give full credit to Mr. Chow Tze-chi, the new head of the currency bureau, for the projected establishment of a mint at Chapei, Shanghai. Mr. Chow, who has held office formerly as Minister of Finance, Minister of Communications, Minister of Commerce, Agriculture and Industry, is one of the most progressive of Chinese officials. To his credit are many reforms, and if he is able to hold the directorship of the currency bureau long enough he will probably do much towards the reform of currency in China. Already he has instituted two conferences a month at his bureau for the consideration of questions of moment connected with currency matters, and out of these conferences may spring some definite program for the betterment of financial and currency conditions. One thing contemplated by the bureau is the organization of a Currency Inspecting Committee for the inspection and examination of the composition of coins minted throughout the country as well as those in circulation. This will probably be put into effect in connection with the establishment of a mint at Shanghai, the machinery for which has been ordered, according to report.

The New British Minister to Peking

The appointment of Mr. Beilby Alston as British Minister to Peking to succeed the Right Hon. Sir John Jordan will be acclaimed by his friends. Mr. Alston, who is at present British Minister in Tokyo, brings personal knowledge of both Japan and China to his task, as well as long experience in the diplomatic service of his country. He is thus peculiarly equipped to meet the new conditions which are gradually developing in this quarter of the globe, and will prove a competent guardian of British interests. Mr. Alston is keenly alive to the vital importance of the questions developing in China and the Far East; fully realizes the onerousness of the post which he will occupy, and has the diplomatic flair to enable him to deal with the problems which will confront him. He was born in October, 1868, and is the second son of Sir Francis Alston, K.C.M.G., also of the diplomatic service. He entered the service of his country at the age of 21, since when he has had considerable experience in posts as varied as the countries which he has visited. His first post abroad was at Copenhagen, where, in 1895, he went as third Secretary in the diplomatic service. In 1896 he was made Secretary to the British Plenipotentiaries at the Copyright Conference in Paris, and later in the same year was transferred to Buenos Ayres as acting second secretary, and also officiated as Charge d'Affaires. In 1898 he was appointed Secretary to the British representative at the Brussels Sugar Conference, and was similarly appointed to the conference in 1901-2. At the time of the Coronation of the late King Edward he was attached to the foreign representatives accredited to attend the ceremonies. In 1906 he accompanied Sir Henry Austin Lee in a tour of the consular offices of France, and in 1909 was appointed attache to the Chinese Naval Mission under Prince Zai Sun on its visit to England. He had a similar appointment with Prince Tsai Chen who attended the coronation of King George V. In the same year he went to Siam as secretary to Prince Alexander of Teck's Mission to the coronation of the King of Siam, with rank of Acting-Councillor in the Diplomatic Service, and later was sent to Peking as Acting Councillor of Legation with regard to an inquiry into the leases in British Concessions in China. He visited Japan, returned to the Foreign Office in London, and in 1913 was again appointed Acting-Councillor at Peking, and acted as Charge d'Affaires. In 1916 he again acted as Charge d'Affaires, which duties he carried out for about a year during the absence of Sir John Jordan in England. Upon Sir John's return Mr. Alston accompanied the British High Commissioner to Siberia, and upon his return was given the rank of Minister Plenipotentiary to Japan, a position which he will vacate to return to Peking. He will take up his duties in the Chinese Capital with the best wishes of all interested in the development of affairs in China, and with these we join in wishing him a distinguished career.

Chinese Eastern Railway Control

There has been a great deal of trouble in connection with the control of the Chinese Eastern Railway, but by March 17, the Chinese authorities managed to secure dominance in the direction of affairs. On that date a strike of railway employees ended and found the Chinese flag flying in place of the Russian. The workmen considered that the strike ended in a complete victory for their cause, inasmuch as the Commander of the Chinese troops indicated that the Chinese authorities were sympathetic with the revolutionary movement. The authorities of the present Siberian Government recognized the Chinese sovereignty over the Chinese Eastern Railway and urged the dismissal of General Horvath, who previously directed the affairs of the railway, and the appointment of a Chinese manager of the railway in his place.

This railway has been a bone of contention during the whole course of the Russian trouble, and perhaps now that the Chinese have managed to secure control, the international scramble will cease for the time being at least.

General Horvath had all along strongly maintained that in view of the close proximity of the Chinese Eastern Railway to the South Manchuria Railway, there is no possibility of restoring the police power to China, even though the Line may be redeemed. The General alleged in support of his argument certain treaties

concluded between the Governments of Russia and Japan, which cannot be applicable on this occasion. The General insisted on having 30,000 Russian police but this number was criticised by the Kirin Tuchun as being superfluous and only consented to the maintenance of 500 Russian police, which may be allotted special duties, such as, guarding the various stations, the treasury, the locomotive workshop, and general store. As a result of the strong protest on the part of the Tuchun, who is supported by all logical arguments, the Russian authorities made a compromise by consenting to have the Chinese counter-proposal discussed with a view of arriving at a definite decision, that would be satisfactory to all parties concerned. This, they did, and on the 28th of February, the point in dispute was at length settled satisfactorily between the General and the Tuchun. The Tuchun, as well as the Civil Governor of Kirin, both acting under the directions of Governor-General Chang Tsao-lin, behaved excellently well in this instance; their actions and promptitude in effecting such a satisfactory conclusion deserves high commendation and praise. It speaks for the loyalty of the respective authorities, who have the interest of the Republic at heart. The American Legation at Peking, in a communication to the Chinese Foreign Office, highly approved of the actions taken by the Chinese Government in accepting the proposal of the Kirin Tuchun regarding the control of the railway. The American authorities hope that the Government will see its way to extending to foreigners as well as Chinese adequate protection and travelling facilities.

The following is the proclamation issued by General Pao Kuei-ching, President of the Board of Directors of the Chinese Eastern Railway:—"I have frequently pointed out that the Chinese Eastern Railway is situated in Chinese territory in which the existence of other government power is inadmissible, as there is strife between Russian political parties, which creates disorders and interferes with the work of the railway. Owing to the fact that General Horvath, Assistant President of the above board, has assumed the functions of government and proceeded to adopt a policy of military force for political aims, the Russian working population has declared a strike and begun a revolutionary movement. In order to defend China's sovereign rights and maintain normal conditions on the railway, I have suggested that General Horvath shall renounce full political power in the railway territory so as to enable China to fulfil her obligations. All arms are to be handed over to and guarded by specially appointed agents. At the same time I consider it my duty to declare that I cannot allow in future any Russian party or individual to interfere with the work of the railway for political purposes. I therefore request the population on the railway territory to proceed with their peaceful work."

Shanghai Tramway Returns

The following is the Traffic Return of the Shanghai Tramways (Foreign Settlement) for the month of February, 1920, and for two months ended 29th February, 1920, with figures for the corresponding periods last year:—

	February, 1920	February, 1919
Gross Receipts	\$177,640.81	\$139,937.52
Loss by currency depreciation...	43,900.64	34,259.55
Effective Receipts	Mex. \$133,740.17	Mex. \$105,677.97
Percentage of loss by currency depreciation	26.05	25.73
Car Miles run	365,922	317,065
Passengers Carried	7,846,030	6,248,949
	2 Months ended 29th February, 1920	2 Months ended 28th February, 1919
Gross Receipts	\$359,534.10	\$299,016.52
Loss by currency depreciation...	89,846.27	70,949.16
Effective Receipts	Mex. \$269,687.83	Mex. \$228,067.36
Percentage of loss by currency depreciation	26.34	24.98
Car Miles run	759,203	677,855
Passengers Carried	15,998,747	13,482,476

Will the I. G. do the Right Thing?

The death of Mr. R. J. White, Chief Appraiser of the Chinese Maritime Customs, Canton, was recently reported by wire. This makes two Chief Appraisers who have died lately, both in "harness," and the fact calls to mind how the members of the Customs Service, particularly the Out Door Staff, have struggled along on inadequate salaries, often in very unhealthy ports, and more than often badly housed, with no prospect of a few short years of rest and quiet in the hardly earned twilight of their lives, until death releases them from labor. Last March a combined and strongly supported movement of the Out Door Staff brought about a very much overdue increase of salaries, and also certain improvements in regard to the retiring allowances, and in October last the Inspector-General of Customs received a deputation from the Out Door Staff who wanted to bring to his notice their many and certainly genuine grievances. Surely, the disgrace of seeing old service members being compelled to work until decrepitude found them dying in harness, as witnessed in the case of the two old Chief Appraisers lately gone to rest (who put in between them 77 years' Customs service) could be avoided. Another point which is of importance in connection with a Public service which touches all the big nations is that a little publicity regarding administrative expenditure would not be amiss. The Inspector-General of Customs, Sir Francis Aglen, has the opportunity of going down in China history as a great administrator. But he must meet the changing conditions in the proper spirit and be farsighted enough and bold enough to lay it down emphatically that he upholds the doctrine that every servant is worthy of his hire, and that those who sweat blood for China must be paid adequately and be enabled to live decently and in accordance with the new principles which are now finding such world-wide expression. If he fails in this he merely invites servants who are not given a chance properly to meet the great change in living conditions and costs to take action on their own behalf—as working men throughout the whole world are now successfully doing. This should be avoided at all costs both in the interests of the service over which the Inspector-General presides and those of international trade. The out-door staff of the Customs in particular assists materially in the collection of the record customs revenues being secured by China, and we feel sure that the Chinese officials who are patriotic and realise what an adequate customs service means to their country will be only too eager to see that these men are permitted the enjoyment of decent and adequate living conditions. China does not want to "lose face" on this question, any more than the Inspector-General does. The big men of the other parts of the world are realising the significant upheavals that are taking place and are rising in the proper spirit to meet them.

Report of Philippine National Bank

The report of the President of the Philippine National Bank to the stockholders shows that the bank made a profit of 35.68 per cent. on its paid-up capital last year, the paid-up capital being P.10,977,430, and the profit P.3,916,897.49. These profits would have been P.4,716,897.49 if it had not been for the segregation from the profit and loss account of an item of P.800,000 for past due taxes from the date of the inauguration of the bank on May 25, 1916, which were not paid in previous years on account of a fundamental error in accounting.

The net worth of the bank at present is represented by the following figures:—

Paid-up capital	...	...	...	P.10,977,430
Legal reserve	...	...	...	3,495,756
Undivided profits	...	...	...	1,526,814
Total	...	...	...	P.16,000,000

Ingenious Bridge Builders of Java

The natives of Java have a bridge-building technique which utilizes to the limit their slight resources for work of this character. Of raw materials they are acquainted with but two, and one of these is really a product of their own ingenuity. They have no nails, no iron, no true wood; they are forced to rely entirely upon bamboo for the structural parts, and upon a rope of their own manufacture to effect the junctures. The span is almost 150 feet, and the width of the roadway some four feet. The four bamboo columns at either side of the stream are built up of a double length of from fifty to sixty bamboos, tied up with rope and firmly pressed together by forcing a quantity of wedges between rope and bamboos. Such columns are found to be of remarkable strength and elasticity. The original element which the Javan natives have brought to the construction of these bridges, as remarked, is the rope. This is made of a fibre taken from the native arenpalm, which grows all over the island. It makes a rope that resists effectively the heavy decaying action of the hot and damp tropical climate with its legions of fungi; in fact, it lasts for many years without any indications of rotting. So between this rope and the bamboo the natives are able to achieve a semi-permanent structure for which it would be hard to find a peer on the ground of cheapness and durability. Perhaps the most surprising feature of the whole thing is the degree to which has been approximated the best type of bridge arch. How does an ignorant savage know that a bridge ought not to be perfectly flat?

Coal Discovered Near Butong, P.I.

The National Coal Company has discovered a vein of anthracite coal near Butong, Mindanao, Philippine Islands, above which the formation is solid, and a shaft will be sunk immediately, with the object of commencing operations on the largest scale possible. Mr. Dalburg, the mining engineer who is credited with the discovery of this vein, has been exploring the coal fields on the Sibuguey Peninsula for several months and has found immense quantities of coal. In most cases, however, the formation above the coal is too soft and broken to warrant shaft mining, a condition that is generally apparent throughout the coal-bearing Islands. But at Cebu there is a solid formation above the vein being worked by the company; the new vein in Mindanao is the second on the company properties where shaft mining will be possible. All timber required for the exploitation of this vein is available on the property. The company is constructing a railroad from Malangas, its headquarters, to Butong, a distance of about 11 kilometers.

1919 Holds Fire Record in Manila

More than twenty-one and a half million pesos worth of buildings and other property went up in smoke last year in the city of Manila, 173 conflagrations having occurred within the city limits during that period. The exact amount of the loss was P.21,546,461. Compared with previous years as far down as 1913, last year's fire statistics hold the record, not only in the value of property lost, but also in the number of fires. In 1918 the fire loss on property in the city was P.13,099,866; in 1917, P7,619,562; in 1916, P.4,526,295; in 1915, P.9,267,207; in 1914, P.8,267,206, and in 1913, P.14,285,113. Much of the property represented by these figures, however, was covered by insurance. The most recent large fire catastrophe in the city of Manila occurred on the night of February 6, 1920, when the great annual Philippine Carnival was swept away by flames. The loss was estimated officially at P.2,000,000, but many of the exhibits which were destroyed were priceless.

Preparations for Italian Aviators in Shanghai

Elaborate preparations are in progress to greet the Italian aviators when they reach Shanghai. They are expected to remain in the city about 36 hours, during which time they are to be the guests of honor at two banquets, several receptions, an informal dance, and in motor trips around Shanghai. The Department of Aeronautics of the Peking Government is to receive them,



Guiseppi Brezzi, Engineer and Master of Aeronautics for the Italian Government

members of the Civil and Military, and the Aero Club of Shanghai also officiating. As soon as it is known definitely when they are expected to reach Shanghai Lieutenant Panfill, who is known to the Shanghai public by his recent performances in the air, will start in his S.V.A. machine and escort the visitors to the Kiangwan Race Course where they will land. A reception will be held at the Race Course under the auspices of the International Recreation Club—after which the aviators will come to Shanghai in motors. The Peking Government has offered

seven motors for the visitors while they remain in Shanghai. Their first banquet is to be at the Astor House. Seventy local organizations will participate. Covers for 500 persons are being prepared. Admission will be by tickets which may be obtained from March 22nd at the office of the Secretary of the Italian Chamber of Commerce. Besides airmen the guests will include

members of the Consular Body, local Chinese officials, members of Shanghai Municipal Council, and others. The Astor House Banquet Hall is to be specially decorated for the occasion. A souvenir will be given to each of the aviators, who will be requested to tell of his experiences. The banquet is to be followed by an informal dance. The next afternoon a performance is to be given at Kiangwan by the International Recreation Club. Tickets for this will sell at one dollar each. At eight the same evening a second banquet will be given at the Bureau of Foreign Affairs. The hosts will be Lieut.-Commander T. S. Chu and Major P. C. Pao, special delegates from Peking. Others to welcome the aviators will be Col. Chu Shih-wen and Mr. Hsia Chin-ching, special deputies of Tsuchan Li Shun of Kiangsu; Admiral K. K. Lang, Chief of the Admiralty; Mr. Yang Tcheng, Commissioner of Foreign Affairs; Mr. Wang Ken-ting, Taoyin of Shanghai, the magistrate of the Shanghai city, and General Hsu Kuo-liang, Chief of the Nantao Police. One hundred and fifty guests will be invited including the fliers, the reception committee, officers of the Aero Club, and members of the Consular Body. The last word from the aviators received at Shanghai, said they had arrived in Calcutta. In the original group were seven airplanes, the number has increased now to eleven it is stated.

Chinese Intentions

The Peking government has appointed Major-General Ting Ching, of the Ministry of War, to be director of the Chinese government aviation establishment at Nanyuan, Peking. For the purpose of facilitating communications, the government intends to build a branch line from Peking to Nanyuan and Peiyuan which will connect with the Peking-Hankow trunk railway shortly. Further, on the recommendation of General Ting ten of the best students of the Government Aviation School will be selected and despatched to England to study modern aviation tactics under British instructors. It is reported, says the "Peking Leader," that the Chinese Government authorities are not going to make those aeroplanes recently purchased from London as costly toys but they will form the basis for the establishment of a big flying corps for China both for military and commercial purposes and that, if possible, machines will be purchased from other western countries in the future.

Aviation in the East

The South is leading the North of China in aviation, as it has been the pioneer in most advances. Already Mr. C. E. W. Ricou has inaugurated an air service between Macao and Hongkong, which, we understand, is soon to be extended to Canton, and later to Shanghai, Manila and Japan. A large party of trained American aviators are already in Hongkong with a number of machines for the Far Eastern Aerial Service, which Mr. Ricou has pioneered. This company is the distributing agent of the Curtiss planes. China's first connection by air with foreign countries will doubtless be through the Italian aviators, who are now on their way in the Rome to Tokyo flight. The Chinese Government expects to make their arrival in China a memorable event to stimulate national interest in aeronautics. The Government has already bought a number of Handley-Page machines, and has contracted for a large number of Vickers Vimy planes.



Testing the strength of the planes on an Italian aeroplane. Bags of sand approximating the maximum air pressure at the maximum speed are utilized.

Manila and Chinese Aviation Students

Major J. E. Hamilton Stevenot, Far Eastern Manager of the Curtiss Company, in speaking of the possibilities of the Philippine Aero-Club co-operating with The Aero-Club of Shanghai said that students from Shanghai could be trained



The Inventors of the Italian plane.
Sig. Sanoja and Sig. Verduzio.

in the Curtiss School at Manila. Applications have been received for the matriculation of Chinese government students in the Curtiss school. The school could also take care of students from the aerial club at Shanghai. There are many former army aviators at Shanghai and in other China cities, whose interest in flying will be kept alive by a permanent club organization.

Tokyo-Seoul Flight

The Japanese military authorities carried out a flight from Tokyo to Seoul, Korea, and return about the middle of March. The flight is the longest so far attempted in Japan. Three planes took part in the flight. The Japanese newspaper, "Jiji," urges Japanese aviators to undertake flights to compare with the great ones done by European aviators, and suggests they ought to fly from Japan to Peking, or to the Yangtze, or South China and the Straits Settlements. "It is incumbent on the Japanese aviators to attempt these flights," it says.

Aeroplane Acrobatics at Peking

Peking has been interested in the performance of the first of two Avros ordered by the Chinese Government from the Handley-Page Company inasmuch as it is the first time that anything but straight flying has been witnessed in the capital. Captain Mackenzie had the machines up on two successive days. On the first occasion he merely tried the wires though over Peking he did a stalled turn, but on the second ascent he looped the loop, nose dived, side-slipped, spiralled, etc. This type of machine is to be employed in the training of Chinese aviators, a commencement with which work will be made this month.



The S.V.A. Ready for Flight.

Hongkong-Macao Service

Eleven of the Curtiss machines of the largest type for the South China aerial service are already on their way, having left New York by the steamer *Dacre Castle* on January 20 and are expected to arrive at Hongkong towards the end of April. The machines were constructed for the U. S. Navy and are equipped with Liberty motors. They have been re-modelled for carrying passengers and each plane is capable of making a continuous flight of 650 miles and carrying 14 passengers. It is still uncertain where the headquarters of the new organization will be, but it is expected that some selection will be made either at Hongkong, Canton or Macao. The first route will be mapped out from these cities and extended later to Shanghai and finally to Manila and Japan. An aerial service under the auspices of Mr. Ricau between Hongkong and Macao was inaugurated on March 17 when, as already announced, the distance was covered by seaplane in twenty-three minutes. A regular connection between these cities and Canton will be maintained in the future.

Siam Aeronautics

Appearing in the Siam Government Gazette of February 15, 1920, are two Royal Decrees issued under date of February 9, 1920. The one states that His Majesty the King, on February 2, ratified the International Convention concerning the Regulation of Aerial Navigation signed at Paris, October 13, 1919,



Sig. Tenenti, one of the pilots on the Rome to Tokyo flight. He took part in the raid on Friedrichshafen.

and that the Royal Ratification is on the way to Paris, according to the final provision of the Convention to be placed in the archives of the French Government. The other Decree invests the Ministry of War, in which the Department of Military Aeronautics is already included, with the entire direction of all matters concerning Aerial Navigation.

Trans-Pacific Air Flight to Hongkong

The "Times" (London) New York correspondent telegraphs that it is stated that the United States Navy is constructing two giant seaplanes with which a flight will be attempted from San Francisco to Hongkong via Honolulu, Wake Island, Guam and Manila. It is reported that the new giant Vickers aeroplanes will challenge the American machines for a Trans-Pacific flight.

Engineering, Financial, Industrial and Commercial News

RAILWAYS

Tube for Tokyo.—It has already been reported that an underground railway scheme is proposed in Tokyo and it is now stated that official permission has been granted and the promoters are putting their ideas into form. As a first step towards the completion of the scheme, an underground line will be constructed from the Shinagawa terminus of the Keihin (Tokyo-Yokohama) Electric Line to Kaminarimon, an entrance to Asakusa Park, with a branch line, separating from the main line at Kurumasaka, Shitaya, to connect with the surface lines at Minami-Senju. It may be noted that the company is capitalised at Y.40,000,000 and is named the Tokyo Chika Tetsudo Kabushiki Kaisha. The Company was promoted by Mr. Hayakawa Tokuji and others.

Siam Extension.—Siamese State Railways are to be extended from Koorat to Ubon passing through Buriram, Suriu, and Sisatlet. A survey is now being made of the new line.

Swatow-Chaochowfu Line.—The Swatow-Chaochowfu Railway (26 miles long) operated at a loss. Although the number of passengers carried increased about 30 per cent., the receipts were considerably below those of 1917. This was due principally to the necessity of carrying soldiers free of charge. Freight receipts, always unimportant, were much the same as in previous years.

The Swatow-Changlin Light Railway, a push-car line for carrying passengers, extended its track as far as Changhai, a distance of 10 miles from Swatow. It is reported that the company plans to double-track the line as soon as profits permit, when it will also be used to carry light freight. The company erected during the year a one-wire telephone line along the railway for its own use. It is reported that another light railway line will be constructed between Chaoyang and the landing place of the Swatow launches.

Chinchow-Jehol Project.—A Chinese news agency states that the Government has decided to construct a railway from Chinchow to Jehol in connection with the construction of Hulutao port, and that Chow Chou-hsiang will be director both of the railway and of the port.

Japan Takes Advantage of Railway Situation.—The "Peking Leader" says: The proposed scheme for the construction of the Hei-Ping Railway (North Manchuria) was formerly floated by Russian capitalists and the Russo-Asiatic Bank undertook to provide China with the required funds. On account of the recent revolution in Russia, the Russian authorities found it impossible to render service to China. Accordingly, the Japanese financiers were approached by the Representative of the Russo-Asiatic Bank in Peking, with a view of extending to China in equal shares the necessary capital for starting the construction work of the line in question. Owing to certain political questions, which prevented the Government from negotiating with the representative of the Russo-Asiatic Bank, the proposal thus advanced by the Russian authorities was not accepted. Meanwhile, the Japanese capitalists are quite willing to take advantage of the situation, and are prepared to finance China single-handedly in this special instance.

Increase of Railway Transport Capacity.—Aside from the construction of about 1,000 freight cars to be transferred from the current financial year, the Japanese Imperial Government Railways expects to build about 1,600 new freight cars of a 10-ton capacity. Besides, many small freight cars are to be reassembled. The result will be that in the next financial year, the Railway Board will have its transport capacity increased by about 30,000 tons in all.

Japanese Railway Receipts.—The latest official returns of the Government railways show the amount of passenger receipts for the ten months from April 1, 1919 to January 31 this year to have amounted to Y.130,154,808 and the freight receipts to Y.107,761,474, making a grand total of Y.237,916,362. This is a gain of Y.50,872,390, the gain in passenger receipts being Y.31,780,061 and in freight receipts Y.19,093,329 over the corresponding period of last year. The receipts for January 1920 totalled Y.23,804,488, an increase of Y.5,749,951 over that of January 1919.

Tientsin-Pukow Tickets.—The Tientsin-Pukow Line of the Chinese Government Railways is now issuing periodical tickets of one, three, six and 12 months.

South Manchuria Railway Company.—The South Manchuria Railway Company has decided to increase its capital from Yen 200,000,000 to Yen 240,000,000.

American Locomotive Export Combine.—Two big equipment manufacturing companies, the American and the Baldwin Locomotive companies, have formed an organization to be known as the Locomotive Export Association under the provisions of the Webb-Pomerene act to handle some of the foreign business of those companies. The organization was formed primarily to take care of the order for 150 locomotives for the Belgian Government, which has been divided between them. That order originally went to the American Locomotive Company, but because of the necessity for early delivery it became necessary to divide the order with the Baldwin company. In order to work in conjunction on a foreign order, the companies were compelled under the Webb-Pomerene act to form the association. None of its officers has been elected, its management being vested in two representatives of each company. Although no definite plans for the new organization have been worked out in detail, it is considered probable that the two equipment manufacturers will continue the association to handle other foreign business soon.

Although there is now no connection between the formation of the association and the long talked of equipment export combination, in which all of the important equipment producers planned to participate, it is considered probable in some quarters that the new company formed by the Baldwin and American Locomotive interests may become the nucleus for the greater organization. In the formation of the new concern the companies had in mind only their immediate needs respecting the Belgian orders, it was stated, but the long discussed plans for the larger company, which would include also the American Car and Foundry Company and others, may, it is said, grow out of the new organization.

Living Buddha Supports Kalgan-Kiakhta Railway Scheme.—The Living Buddha of Urga has despatched a telegram to the Peking Government stating that the project which the Government has formulated for the construction of the Kalgan-Kiakhta Railway has met with the hearty support of the different princes in Outer Mongolia, who fully realise the importance of such a scheme, as the construction of the new line will remove much of the transportation difficulties that now exist in Mongolia. Large sums are being subscribed by the princes of the different Leagues in Outer Mongolia as capital for the construction of the line, and the Living Buddha himself will undertake to raise one-tenth of the whole amount of the funds required for construction.

New Locomotives for Japan Railways.—Twelve new locomotives capable of hauling a train of 13 cars as compared with 9 by present locomotives, were to have been put on the Tokaido line during March, and others are scheduled to be in operation on the line from Tokyo to Shimonoseki before the summer.

Pukow-Sinyang Railway.—The question of resuming the work of the construction of the Pukow-Sinyang Railway has been taken up at Peking, and Mr. Hsu Shih-tsang, Director General of the Tientsin-Pukow Railway, has been appointed concurrently Director General of the new line. When the war broke out, the earthwork of this railway was well advanced, but had to be stopped owing to financial stringency.

Projected Railway in Korea.—A big railway company called the Hokusen Tanko Tetsudo Kabushiki Kaisha is in course of organization in North Korea. The promoters, the "Seoul Press" reports, include Mr. S. Asano, well-known Tokyo business man, and a number of other leading men in Tokyo, and under date of February 25, they filed an application with the Government-General for permission to establish it. The company will be capitalised at Y.20,000,000 and aims at working the rich coal fields in North Korea. When the company is in working order, the promoters hope to lay a light railway of broad gauge, between Lajin and Hunyu, North Hamkyong Province 83 miles in length, with a view to undertaking transportation of passengers and goods on the frontier and around Chientao, besides its main object. It is the intention of the promoters to run the company without asking any subsidy from the Government-General. Mr. Asoh, a well-known mining business man of Seoul, who is one of the promoters, and several engineering experts of Tokyo will shortly visit North Korea on business connected with the surveying of the route. The capital of the company, 400,000 shares, will be entirely subscribed by promoters and supporters of the plan.

American Locomotive Company Gets Orders.—The American Locomotive Company recently closed orders for seven consolidation locomotives for the Shantung Railway, China; and four for the Imperial Taiwan Railways, Japan.

Baldwin Gets Chinese Order.—Baldwin Locomotive Co. has received an order for twelve locomotives from China, eight to be consolidated and four Pacific type engine.

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materials
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and supplies
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materials

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Red and white lead
Concrete reinforcing bars and triangle mesh
Plumbing, heating and wiring devices

GENERAL IMPORTERS AND EXPORTERS

Foochow Roads Extending Slowly.—Only 2 miles of roadway were constructed in and near Foochow city during the year, making a total of 30 miles built in the last three years under the direct supervision of the provincial government. About 2,000 jinriksha, 30 carriages, and 15 motor cars are now being operated on these modern roads. A large motor bus does a thriving business carrying passengers back and forth. These roads and the motor bus have become so popular that the provincial government is planning to build similar roads to Yenping, a distance of about 120 miles. At present, the only roads from Foochow are the ancient narrow stone affairs, badly in need of repairs. The building of modern roads throughout the district would be of immense benefit to the people. The total amount expended up to October, 1918, for roads was \$318,000.

Amoy-Changchow Line.—The railway from Sungsu, on the mainland opposite Amoy, says a report by American Consul C. E. Gauss, runs only 17 miles in the direction of Changchow, maintaining the present railhead at Pohlam bridge. No work toward extending the line to Changchow has been done during the year. The line carries passenger traffic almost entirely, and is run at a loss by the ministry of communications. The roadbed and rolling stock are in poor condition.

While there have been many plans for roads, some with motor-bus services, and for narrow-gauge railways, discussed for this district, nothing definite has appeared, except that some roads have been constructed in the city of Changchow and a project to construct a road from Changchow to Shihma, the head of launch traffic from Amoy, is under way, although actual construction work has not begun.

It is to be hoped that some means will soon be found of opening up transport facilities with Lungvenchow—the hard-coal fields in the interior. While quantities of anthracite, which has produced splendid assays, find their way to Amoy in small boats, through the rapids and with transshipment, the quantity is not sufficiently large to give the port any standing as an anthracite coal depot.

Launch service continues to be practically the only means of communication with inland and near-by water points, from which the traveler must proceed by small boat, by chair, or on foot. The launch service was interrupted during part of the year by military operations, but is now about normal.

Tokyo Tramways.—Plans have been made to spend Yen 1,200,000 on the reconstruction of Tokyo car lines.

Siaosing-Siaoshan Railway.—Mr. Jen Yu-shan, director of the Shanghai-Hangchow-Ningpo Railway, has decided to survey a branch line between Siaoshan and Siaosing, crossing the Chientang-kiang with a steamer for the present if the line is built. The survey is expected to be completed in two months.

ROADS

Japanese Road Construction.—A great scheme of road making and improvement is being planned for Tokio, Yokohama, Kyoto, Kobe, and Osaka. The expenditure for Tokio alone, extending over a period of 10 years, is estimated at Y.38,000,000, and the total estimated cost reaches an enormous figure. The undertakings will be supported by Government subsidies, one-third of the cost being provided in this way. The first part of the scheme to be undertaken will be the construction of new roads in Tokio and a great highway connecting the capital with Yokohama.

Yunnanfu to Nanning.—With the object of building a highway for a motor vehicles between Yunnanfu and Nanning, a company has been organized with a capital of \$5,000,000, \$1,000,000 of which is to be contributed by the provincial governments and the balance by the general public.

Road Extension Work in Shanghai.—A great deal of useful road widening and extension work has been carried out in Shanghai during 1919. The most noticeable perhaps being that of Bubbling Well Road and Yuyuen Road, forming as they do the main approach to Jessfield Park. The ever increasing traffic has brought out a fair amount of public criticism as to the inadequacy of the roads, particularly in the Central District. It is apparent to most residents that a great deal of widening is necessary. But while road widening and very costly widening is necessary, it by no means goes to the root of the trouble, viz: the absence of a good arterial road system on a scale broad enough for present and future requirements. A most necessary trunk road would lead from east to west without touching any part of the Central District; unfortunately this would involve the acquisition of land outside the Council's administrative area. The parking facilities about to be provided on the Bund should also improve conditions now obtaining in the narrow roads between the Bund and Szechuen Road. The rapid development of Shanghai: the very small areas in which land is held: the high values of land; and the number of Local Authorities and their diverse interests, all tend to complicate the road question and also the rational development of great Shanghai.

Tientsin-Peking Road.—Construction work is to be commenced upon the road from Tientsin to Peking as soon as the frost disappears, and it is expected that the work will be completed before October. The road has been surveyed and money has been raised for the initial expenditure of getting the road into shape.

SHIPBUILDING

Shipbuilding in Japan for 1920.—Notwithstanding the prevailing depression in shipping circles since the restoration of peace, the shipbuilding industry in Japan has been and is being carried on so prosperously that no shipyard can hardly receive any new orders. The reason for the boom is attributed to the fact that many new orders have since been placed by shipowners on the prospect of a fall in building material after the war. Under the circumstances, it is generally anticipated that the tonnage to be constructed in Japanese shipyards in the course of current year will reach 700,000 tons, should the material be supplied as expected. At present, the material is mostly being imported from America, part being met by domestic production. Recent strike in America by coal miners and employees of iron foundries, coupled with the steady increase in domestic demand, however, have naturally caused some delay in the shipment of goods for export and it is feared that this fact might affect the shipbuilding industry in Japan. To make the matter worse, the big iron foundry at Yawata is reported not to be in good working order, some machinery used for the manufacture of shipbuilding material being in a damaged condition. There are more facts unfavorable for the progress of the industry.

New Ships.—The ocean-going steamers built in Japan from October 1918 to October 1919 number 777 (3,759,888 tons gross) in iron vessels and 410 (768,542 tons gross) in wooden vessels.

New Steamer for Yangtze Rapids.—The Ichang-Chungking str. *Loong Mow*, built to the order of Messrs. Mackenzie & Co., Ltd., Shanghai, was launched on March 2 at Kiangnan Dockyard. The dimensions and power of the vessel are slightly greater than the other vessels engaged on this run, says "Shipping and Engineering," and it is expected she will be faster and more commodious than the best of the several steamers navigating the rapids of the Upper Yangtze. Watertight subdivision of the hull has been specially considered to safeguard as far as possible any danger of sinking in the event of the hull being holed. As a further precaution the vessel has been built to comply with the Rules and Regulations of the British Corporation for the Survey and Registry of Shipping and has been built under special survey. The vessel is fitted with twin propellers driven by triple-expansion engines supplied with steam from Messrs. Thornycroft's latest type of water-tube boilers, and has steam steering gear actuating three rudders. Accommodation is provided for a limited number of foreign and Chinese passengers.

Steamers Sold in Japan.—A contract has been signed between the Asano Shipbuilding Company and an American merchant for the sale of four vessels of 8,600 tons each now on the stocks in the Company's yard at the rate of \$160 per ton. The Company is negotiating with other buyers regarding the sale of four other vessels at a higher rate on terms of July-August-September delivery.

N. Y. K. Launches Freighter.—On March 3 the new Japanese freighter *Lyons Maru* was launched at Yokohama, by Baron Kondo, president of the Nippon Yusen Kaisha. Speeches were delivered by Baron Kondo, Mr. Sakamoto, Admiral Shimamura and Mayor Kubota. The *Lyons Maru* is said to be one of the finest boats of her type ever launched. She is 10,000 tons deadweight, 58 feet beam, 34 feet moulded depth, and her contract speed is 14 knots. Her engines can develop 5,000 horsepower. She is the largest ship yet built by the Yokohama Dock Company and the first of what are known as the L. type freighters. It has not been definitely decided by the company, but the *Lyons Maru* will probably be placed on the European run.

Str. "Silesia."—Str. *Silesia*, one of the three Austrian vessels detained by the Chinese Government last year as a result of the war, is reported to have been sequestered by the Italian Government. The Vice-Minister of Foreign Affairs, to whom the question was brought by Minister Wang in Rome, has instructed the latter to approach the Italian Government, demanding for a satisfactory explanation concerning the retention of the vessel. In the absence of a satisfactory explanation on the part of the Italian Government, the Chinese Minister in Rome is instructed to lodge with the Italian Government a vigorous protest in the name of the Chinese Government. The Minister is further ordered to bring the case to the notice of the Peace Treaty, should the situation justify.

INDUSTRIAL

Another Flour Mill for Shanghai.—The Manchurian Flour Milling Company intends erecting another mill at Shanghai in view of the plentiful supply of wheat along the river Yangtze. This new project is, however, not to be managed by the company itself, but will be placed in hands of a new joint stock company capitalized at Y.3,000,000, called the Shanghai Flour Mill Company. The Manchurian Flour Milling Company will own the best part of the shares in the new company and sell only 5,000 in the market.



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Tsingtao Cotton Mill.—The International Cotton Trading Company will enlarge its cotton mill at Tsingtao. The required funds will be raised by the issue of new shares to the value Y.10,000,000,000.

Cotton Mill at Wuchang.—A large cotton mill was opened at Wuchang on February 25. It is owned by a native merchant in Hankow and has a substantial capital. Three hundred hands have been taken from Shanghai.

New Reeling Companies in Japan.—In order to prepare for the possible reaction after the present good turn in export trade, projects are being made by Japanese silk reelers to convert their private filatures into joint stock companies. The Maruman Filature at Osaka has already been converted into the Maruman Silk Reeling Company capitalized at 3 million yen. The Shinsankan Filature in Nagano Prefecture and its branch office at Nagoya are also being converted into a joint stock company capitalized at Y.3,000,000. The capital of the new concern is divided into 60,000 shares, of which 53,000 shares are to be allotted to promoters and the rest to be offered to the public for subscription at a premium.

Japanese Company Promotion.—According to returns published by the Mitsui Bank, the capital invested during January for the promotion of new companies and the extension of old concerns amounted in all to Y.1,006,331,000. Of this sum, Y.423,790,000 represented the establishment of new companies and Y.639,528,000 the extension of old ones. Compared with the preceding month, the former shows a gain of Y.143,000,000 and the latter a gain of Y.377,973,000, making a total increase of Y.520,970,000. Compared with the same month of last year, called the capital into use for the promotion of new companies shows a gain of Y.286,130,000 and that invested for the extension of old concerns a gain of Y.587,930,000, totalling Y.874,068,000. This remarkable increase in the amount of capital called into use for the extension of old companies was due chiefly to the raising of capital effected by many banks.

New Cotton Mills.—The Dai Nippon Spinning Company has decided to erect another cotton mill in China following the completion of the mills the company is now building at Tsingtao and Shanghai. The new additional mill will be built at Tientsin, and will employ from 20,000 to 30,000 spindles.

Dye Works at Hankow.—A big dye works is shortly to be opened by Cantonese in Hankow. Twenty-four machines have been brought up from Shanghai and it is stated that the concern will be opened for business early in April.

Match Industry in China.—The export of matches from Sweden is likely to cease, while America is barely producing enough for home consumption. The only dangerous competitor will be China when the matches industry is fully developed. There are at present 34 factories in China with a yearly output of 150,000 tons. Of the 34 nine are operated by Japanese, with a total output of only 80,000 tons. Ever since the boycott the industry has been making rapid strides and exports of Chinese matches to the south seas is only a question of time. With the following advantages, the match industry in China should become one of the most important industries in the country: (1) China is a great market for goods; (2) the country is rich in raw material; (3) wages are lower compared with Japan; (4) land is cheap; (5) match industry is a simple business with quick returns.

Would-be Socialist Venture.—The Dai Nippon Jinzo Hiryo Kaisha or the Japan Fertiliser Company proposes that the present capital of Y.14,300,000 should be increased to Y.30,000,000. It is also proposed that 314,000 new shares should be issued for the purpose of which 286,000 shares should be distributed among the present shareholders in the proportion of one new share for each old one and the rest among the employees of the company as "good service" shares.

The Anshan Steel Works.—In a report in the "Board of Trade Journal" H.M. Consul at Dairen states:—The unsatisfactory state of affairs at the Anshan Steel Works, the property of the South Manchuria Railway Company, is borne out in an article which appeared recently in a local non-official organ. The writer indicates that the company have practically decided to abandon the erection of the steel manufacturing plant, and to restrict their energies to the production of pig-iron. The termination of the war and the consequent sudden drop in the price of iron and steel is probably responsible for the change of plans. Given a further two years in which to stabilize its position, it is quite conceivable that, with the inflated prices which prevailed during the war, the works would have proved a financial success, notwithstanding the great expenditure of money on the undertaking. But as matters stand at present, the receipts from the works will certainly fall far short of the estimate for the current financial year, viz., £2,170,700 (approximate).

The article states that the first part of the programme, as is generally known, has been duly completed, but construction work on the second part of the programme is to be suspended, and it is probable that radical changes will be made in the original scheme. If the latter were to be carried out in its entirety an enormous outlay would still be required, but the present financial condition of the company renders this impossible. Moreover, it has to be remembered that the company would have to face the opposition of the iron works in Japan. It would seem, therefore, that the original plan of producing all kinds of iron and steel goods at Anshan is now considered unsound. A big reduction must therefore be made in the equipment originally contemplated, and future activities will be confined to ore extraction and the manufacture of pig-iron.

A Sane Program for the Promotion of Industry.—Mr. Yeh Kung-tso, High Commissioner of Industry to the Government of China, has a scheme for the promotion of industry which is logical, practicable, and begins in the right place. In order to arouse interest in industrial enterprises he proposes the organization of lecturing groups. His program is arranged as follows: (1) The Agricultural Guilds and Chambers of Commerce in the various localities shall be entrusted with the organization of these groups and the lecturing materials shall be supplied by the Industrial Bureaux; (2) The Industrial Bureaux shall compile books in the "pai hua" or spoken language dealing with the climate, products, methods to make improvements, etc. to be distributed and used as lecturing materials by the commercial and agricultural institutions; and (3) along the coastal regions or railways where there are no agricultural guilds or chambers of commerce lecturing groups may be organized by the Industrial Bureaux and sent to such places.

Chinese Brewery.—Dr. Wu and Mr. Lin Chu-san, representatives of the Chinese Brewery Company of Kiangsu Province, are in America at present with the object of purchasing machinery for brewing beer. The brewery will be established at Wuhsi, and the promoters hope to have beer on the Shanghai market by next spring at the latest. The company expects to spend about G.\$200,000 on the plant.

New Japanese Companies Established.—Investigations by the Department of Agriculture and Commerce show that the number of companies newly established in Japan during the past five years was 28,016 with an aggregate capital of Yen 4,462,871,517. Particulars according to different years are as follows:—

	Number of new companies	Capital Yen
1915	4,003	128,077,940
1916	3,935	236,600,002
1917	5,156	1,007,335,320
1918	7,972	1,798,823,239
1919	6,950	1,298,823,239

Below are the details classified according to different kinds of enterprises undertaken:—

	Number of companies	Capital Yen
Commercial	10,373	1,270,782,256
Industrial	10,952	1,870,897,079
Mining	435	470,496,970
Agricultural	636	63,712,264
Forestry	333	51,912,736
Fishery	159	28,227,695
Transportation	1,548	360,375,507
Miscellaneous	3,580	316,467,010
Total	28,016	4,462,871,517

Beer and Boycott.—With negotiations for a deal involving several million dollars pending between William Wu of Shanghai and Rudolph Samet, president of the State Brewers Association, for the purchase of brewing machinery, it became known on January 20 that the Chinese intend to enter the brewing business and boycott Japanese beer, says the "San Francisco Chronicle." "Practically all the beer consumed in China is the Asahi beer, made in Japan, and Tsingtao beer, made by the Japanese in the sphere of influence they took from the Germans during the war. Loyal Chinese have boycotted all things Japanese and intend to carry the boycott to beer. The only Chinese brewery now in operation is in Peking, and not large enough to supply the demand for Chinese beer. Because of the poor water at Shanghai it is the promoters' intention to establish the breweries in small towns nearby, where the water supply is good. If the mammoth deal for brewing machinery is consummated famous California brew-masters will go to China in charge of the manufacture and handling of the beer.

Knitting Mills in China.—The manufacture of underwear and hosiery is a growing industry in China. Canton, Shanghai, Hankow, Swatow, Chungking, Peking, Tientsin, Harbin, and other cities are producing these articles in factories that are mostly small and poorly supplied with machinery. The Pioneer Knitting Mill in Shanghai is a modern establishment equipped to knit both cotton and silk hosiery. When all the American machinery ordered has been received, this will be the largest hosiery mill in China, with a daily output of 1,000 dozen. Its products are not only sold locally but exported to other parts of the Far East. The Li Kiang Knitting Factory in Swatow, using machinery operated by steam, had an output of 54,000 dozen pairs of socks in 1917. The manufacture of ribbed underwear in Swatow has materially reduced the sale of cheaper goods imported from Great Britain and Japan. It should be noted, however, that Chinese industries are at the very beginning of their development along modern lines, and the vast population of the Republic must continue for many years to depend chiefly upon many lines of foreign manufacture. The net imports of hosiery in 1913 were received mostly at the following ports (value in Haikwan taels):

FOR SALE

Plate and Shape Spacing Table With Multiple Punch

Bought for use by an American shipbuilding company under the following specifications and never used. Have never been removed from their original packing:—

SPECIFICATIONS

Plate and Shape Spacing Table with Multiple Punch suitable for punching medium steel plates up to 30" wide, angles up to 8" x 6", and beams and channels 6" to 15" for both web and flange punching on material 54' long.

Spacing Table, hand operated. Frame of steel construction about 60' long on each side of punch to allow unobstructed access for operating and setting.

Cast-iron carrying rolls, designed to properly support the specified class of material, located every 5' for plates and every 10' for angles, I-beams and channels. Angles and channels for flange punching, punched in pairs, back to back; I-beams punched singly. The rollers vertically adjustable in relation to the dies on the punch for punching the flanges, beams or channels 6' to 15', as specified above. Adjustment obtained by means of screws and worms interconnected by a shaft operated by spider or handwheel located near punch within easy reach of the operator.

Roller frames supported on springs to permit of carrying material through punch free and unobstructed from dies. Rack is of steel cut from the solid and made in sections. Spacing carriages hand operated by means of handwheels and releases lever. Frame all steel and fitted with hardened steel roller bearings.

The desired spacing is obtained automatically, and at the stopping point the

carriage is effectively locked against forward or backward movement until released by operator. Spacing carriage clamp is of steel designed to grip plates and angles singly and in pairs for flange punching, and I-beams singly for both web and flange punching, all without change of adjustment. Trailer table equipped for guiding plates through the punch while punching.

Length required for table and punch about 128'.

Punch has capacity to punch simultaneously two 1 $\frac{1}{8}$ " diam. holes through one-inch medium steel. Machine heavily built of A frame double housing type 30" clear between housings. Operated by not less than 35 strokes per minute and especially designed to operate in connection with the spacing table above described, and for punching the size and class of material specified. All gears are covered.

Space occupied by punch, 3' 6" x 10'. Machine heavily built and amply strong. Operated by foot treadle which may be locked in position when desired to run machine continuously.

Weight, Punch and Table complete, without electrical equipment, approximately 55,000-lbs. Is furnished with eight punching units with minimum adjustment center to center of not more than 2 $\frac{1}{4}$ "; two controller levers across face of machine for controlling any combination

of gags from the operating side; one set of toggles for gauging clamps for guiding angles of I-beams, and channels for punching flanges.

Housings or uprights of steel, gags, cast steel cut from the solid. Shafts, open hearth steel. Bearing of ample size and bronze bushed. All running parts scraped to perfect bearing and provided with grooves for proper distribution of lubricants. Clutch jaws, or wearing surfaces, on moving clutch and gear, of tempered steel which permits of easy removal when worn. Clutch disengages automatically at each stroke. Adjustable automatic stop at any desired point in the down stroke. Strippers of suitable kind provided for punching specified kind of material.

Foundation plans giving accurately the spacing anchor bolts, together with all necessary information as will permit laying of foundation will be furnished prior to delivery. All necessary instructions for erection and operation will be furnished with machine upon delivery.

TESTED to punch simultaneously not less than 35 1 $\frac{1}{8}$ " diam. pairs of holes in one-inch medium steel plate on consecutive strokes in one minute, with a clearance between punch and die $\frac{1}{16}$ ".

Cost — \$37,000.

Thomas Multiple Punch and Spacing Table

Thomas Multiple Punch and Spacing Table
capable of handling plates 9' wide by 40' long.

SPECIFICATIONS

Ram pressure, 1,600,000 pounds. This pressure is capable of shearing 32 sq. inches of metal flat at each stroke of the punch.

Distance clear between housings, 9' 2", stroke 3".

Number of strokes per minute, 18.

Diameter of Shaft, 12".

Gear Ratio, 15 to 1.

Weight Multiple Punch, 140,000-lbs.

Weight of Spacing Table, 40,000-lbs.

Double housing central ram type.

Punches fitted with two separate sets of punching tools in order to permit the punching of lines of holes across the plate, which are not in line with each other.

Punching tools:

Machine fitted with 48 sets of separately adjustable punching tools, adjustable down to 2 $\frac{1}{4}$ " and controlled by eight levers, 4 levers for each row of punching tools. Spindles may be of unequal lengths

in order to reduce the shearing effect and relieve the strain on the machine. For punching rows of holes across the plate where the thickness would exceed the capacity of the punch the holes may be punched by two strokes of the punch, leaving the spacing carriage stationary. The spacing table is automatic and requires no attention from the operator except the manipulation of hand levers for controlling gags for operating. All gears are covered. Cost, \$13,500.

MERCHANT SHIPBUILDING CORPORATION

Harriman, Pennsylvania, U.S.A.

Hankow, 270,060; Shanghai, 248,636; Dairen, 160,283; Canton, 149,665; Swatow, 148,373; Wuchow, 111,546; Antung, 105,644; Tientsin, 98,446. Exports of cotton hosiery from the United States to China during the fiscal year ended June 30, 1918, were valued at \$18,648.

Foochow Industries.—The principal native industries of Foochow, says a U. S. Consular Report, are the manufacture of lacquerware, horn combs, umbrellas, carved woodwork, native cotton cloth, soaps, paper, tin foil, condensed milk, glassware, and towels; the production of salt, sugar, dressed lumber, and knock-down wooden boxes. The one local brick factory using machinery was forced to shut down during 1918 on account of losses amounting to about \$25,000. The bricks manufactured were not popular, and despite their high price were not as good as native handmade bricks. The Chinese owners are now planning to sell this factory.

There are several small glass factories at Foochow for making lamp chimneys. Iron moulds, not machinery, are employed. The glass is produced in clay retorts, ranging in capacity from 70 to 340 pounds and in cost from \$7 to \$18 Mexican (\$5.44 to \$13.98 gold) per retort. As the war shut off foreign lamp chimneys from this market, the native-made article has been in much demand. The aggregate business done by these firms during 1918 was about \$30,000 United States currency.

Paper is manufactured in north Fukien in many places in the upper Min River districts, principally near Yenping. It is made from bamboo fiber and consists of three kinds. The first is pure white and its value at Foochow in 1918 totalled \$700,000. It is chiefly used in the manufacture of account books. The second, brown in color and poorer in quality, is used chiefly as wall and wrapping paper. It is reported that the total production of this paper in 1918 was between \$340,000 and \$388,400 in value. The third is used as joss paper

and is shipped almost entirely to northern coast ports. Its annual production is valued at \$388,400. Paper shipments has aggregated more than \$1,400,000.

AVIATION

Air-Craft Station at Singapore.—The Aero Club of Malaya has under consideration the establishment of a great air-craft station at Singapore.

Chinese Students for England.—The Aviation Department is to send 6 students to England to study the manufacture of aeroplanes at Vicker's factory.

Aviators to go for Dutch Prize.—According to the "Times" (London), Lieutenants Backer and Palther, who have entered to fly from Amsterdam to Java for the Dutch Government's prize, state that they have chosen the route via Brest, Marseilles and Naples, not calling at Pisa, or Rome. Egypt will not be visited as the airmen will fly to Basra direct from Cyprus. Moreover they propose to follow the coastal route throughout, flying round the whole length of the Indian coast. They have decided to use a Vickers flying boat with Rolls-Royce engines. The time allowed for the flight is 30 days. The airmen have divided the journey into 26 stages, the average distance apart being 400 miles.

South China Air Service.—Delivery of 11 Curtiss seaplanes is expected at Hongkong in the course of a few days, and their arrival will enable a start to be made at once with the Macao-Canton aerial service.

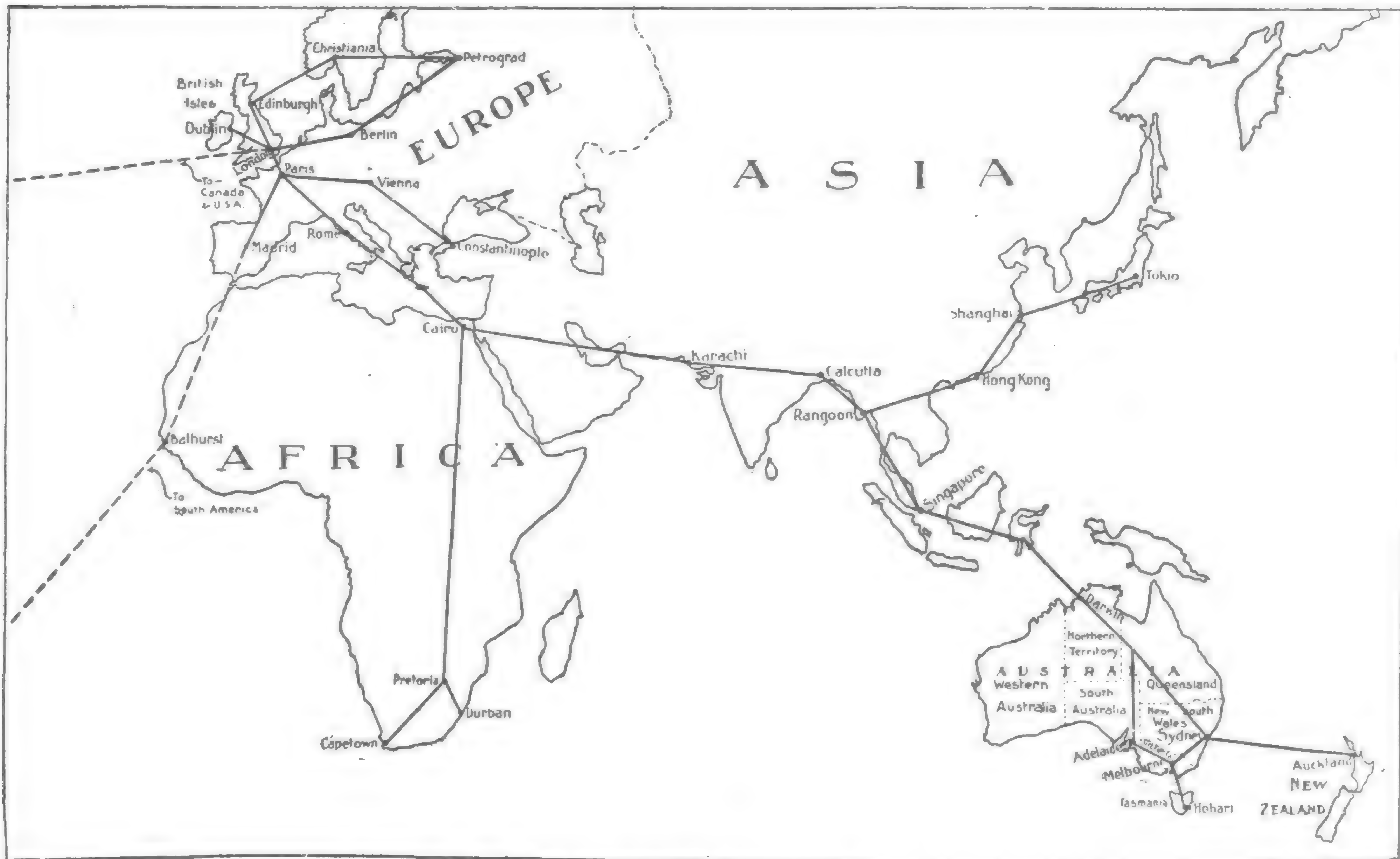
Air-mail Service for China.—Lieut.-Colonel Smallwood, who is superintending the delivery of the Handley-Page aeroplanes purchased by the

Chinese Ministry of Communications, claims that the flying boat is the most suitable type of machine for the Shanghai-Hongkong and Shanghai-Hankow mail service. It will be possible for one to post a letter at five in the evening in Shanghai, and it will be delivered next morning in Hankow. The Hongkong route will be almost entirely by water. Colonel Smallwood believes that two landing stations should be established—on water and on land—and Shanghai should be made the terminus of the Yangtze route. A Shanghai-Peking air mail is possible this spring.

HARBORS

Construction of Tokyo Harbor.—As a result of study and investigations, Mayor Tajiri has decided upon the outline of a plan to construct Tokyo harbor. Covering an area of about 20,000,000 *tsubo*, the proposed harbor is said to be of such a gigantic scale as is several times the port of Hamburg which is said to be the largest of the kind in the world. The work is expected to be set about next year and completed in ten years. The sum of Y.350,000,000 is estimated as the necessary expenditure.

Chefoo Harbor Works.—The report of the Engineer-in-Chief of the Chefoo Harbor Improvement Commission, covering the period from August 1, 1918, to December 31, 1919, states that very good progress has been made with both the foundation and superstructure of the breakwater, and its advanced state now affords very considerable protection against north-easterly wind. Work has been continued steadily on the foundations and superstructure of the Western Mole. The half-yearly report of the Chefoo Harbor Improvement Commission which has just been issued confines itself strictly to business. The work of harbor



AIR ROUTES BETWEEN THE FAR EAST AND THE REST OF THE WORLD

The air routes shown on this sketch map have, or are being tested, and will no doubt be established before long.

improvement was put in hand during 1915, the original scheme calling for its accomplishment in four years, but subsequently an extra year and a half were added. To afford sufficient protection for shipping the Harbor Improvement Commission decided upon a mole to be built to enclose an area which on the other side is bounded by the Bluff. This mole terminates in a quay. Farther out to sea, is the breakwater. The space which these works will enclose is to be dredged to a depth which, while probably insufficient for the greater Pacific liners, will render the port suitable for the trade of the average cargo steamer. The figures run into thousands of cubic yards of masonry, the heavy character of the work being exemplified by the use of three thousand blocks of masonry each of three tons' weight. As regards the mole the figures for masonry, sand, rubble and the inevitable "zincstucks" aggregate hundreds of thousands of cubic yards. The lower part is now approximately at its full height, fully protected on its outer and partly protected on its inner slope. The rubble foundation for the quay wall has been completed, the reinforced concrete caisson for its western end successfully sunk and filled, and that for the eastern end ready to be lowered into place as soon as required. Not much has to be said regarding finance. The treasurer's report for 1919 shows the following items of income: under Collection, Chefoo Tls. 118,432.93; Government grants, Tls. 15,714; five per cent. Customs loan Tls. 1,140,400; and interest Tls. 4,208.69; while the expenditure for the same period is Tls. 526,435.85.

Big Improvements at Chinwangtao.—A correspondent writes from Chinwangtao to the "Peking and Tientsin Times" reporting that commencing this spring, a new breakwater is to be built. Its length will be 2,500-ft. It is to be built outside the present breakwater, and will berth no less than five steamers. The two end berths will accommodate steamers up to 450-ft., and will have a depth at low water of 30-ft. on a soft bottom, which will enable them to ship 20,000 tons of The present breakwater is also to be widened so as to provide five berths on the outside, that when the work is completed they will have 16 berths, which will enable them to ship 20,000 tons of coal per day of 24 hours. The filling in of the lagoon near the present weighbridges, which would greatly improve the place, is also contemplated. There are also many minor improvements which will follow in the wake of the big schemes and from all outward appearance Chinwangtao is likely to become one of the most important ice-free ports in North China, and there is great credit due to the Kailan Mining Administration for their enterprise. The New Breakwater is to be of reinforced concrete. Experts from home are to supervise the work, and altogether this enterprise will be one of the biggest that has been undertaken at any time in China by one single company. The expenditure involved will probably be somewhere in the neighborhood of Tls. 7,000,000 and Tls. 8,000,000. Already a good deal of the machinery required in connection with reinforced concrete work is at Chinwangtao.

Hulutao Director-General.—Mr. Chow Shao-hsing has formally assumed his new post of Director-General of the reclamation of Hulutao for Lienshanwan in Fengtien. With the exception of the establishment of a new office, nothing has been decided chiefly because Military Governor Chang Tso-lin demands the appointment of one of his secretaries, Mr. Hsu Hung-chao, as co-director-general. This practically means that the all-powerful High Inspecting Commissioner of Manchuria, without caring anything about the prestige of Peking government, wants full control over the Hulutao affair because he argues that the pro-

vincial treasury of Fengtien will be responsible for the greater portion of the expenses. General Chang is reported to be in favor of the raising of a foreign loan locally for this purpose.

ELECTRICAL ENTERPRISES

New Cable to Bombay.—The new cable being laid to Bombay by the Eastern Extension Telegraphic Company is expected to be completed by May.

Power Plant in Formosa.—Work on the erection of a power plant to be located at Lake Candidius in Formosa will shortly be begun by the Taiwan Electricity Power Company, Ltd., of Taihoku, Formosa.

Tenders for Motors.—Tenders are invited for 112 induction motors by the Shanghai Municipal Council, specifications for which are to be obtained from the Shanghai Offices, Shanghai.

Big Power Plant Contract.—Stone & Webster have been selected by the Kiso Electrical and Industrial Company, Ltd., of Japan, to supervise the design and construction of a power plant to supply concerns in the territory surrounding Nagoya. The plant will be a 30,000-horsepower, hydro-electric development undertaking and will cost approximately \$5,000,000. The present plan calls for its erection on the Kiso River under a water head of 110-ft. Stone & Webster have two members of the staff already in the Far East to study the power possibilities both in Japan and also at important points.

Telephones in Kiangsu.—In connection with the establishment of long-distance telephonic communications in Kiangsu province, the Ministry of Communications has approved the erection of buildings for telephone equipment in Nanking and Shanghai, with branch offices in Chapei and Pootung, suburbs of Shanghai.

Shanghai-Hangchow Telephone.—Acting upon the order of Tuchun Lu Yung-hsiang, of Chekiang, a military telephone line will be established between Shanghai and Hangchow. The line will be exclusively used by the Shanghai Military Commissioner, the Military Barracks at Kashing, the Military Commissioner at Sungkiang and the Tuchun's Yamen. It is understood that the work will cost about \$8,000. The wire is to be strung on the telegraph poles of the Shanghai-Hangchow Railway, an agreement having been reached between the military and the railway authorities.

Wireless to Kashgar.—By the contract into which the Chinese Government entered with the Marconi Company it was provided that three powerful wireless stations should be erected at Lanchowfu, Urumchi in Sinkiang, and Kashgar which when completed would constitute the longest chain of wireless telegraph communication in the world. Recent happenings in Mongolia have apparently led to a reconsideration of the original plan, with the result that Lanchowfu was abandoned in favor of Urga. Urga will link up with Uliassutai and Kobdo by wireless installations previously purchased by the Chinese Government, and these in turn will communicate with the border settlement at Yulian. Though the land line to Urga works satisfactorily, it is subject to interruption, and the wireless will prove a useful supplement especially in view of the greater political importance attached by China to Mongolia. It may be added that the whole of the wireless material is in China and is awaiting transportation by camel and cart routes.

A Chinese Wireless Enterprise.—The Government is in receipt of a request by a number of Shanghai business men requesting permission to register a commercial wireless service with stations at Shanghai, Tientsin, Hankow and Tsinan, so as to facilitate commercial communications and to undertake, in the event of war, to make over the stations to the Government. The Government so far has made no reply to this request.

Electric Enterprises in Japan.—Electrical enterprises in Japan made remarkable development last year, due to the unusual activity prevailing in business circles. According to a report to hand, at the end of last year the number of companies undertaking the supply of electricity was 661, those operating electric trams 42, and those undertaking both supply and electric tram services 50, making a total of 753, an increase of 37 compared with the previous year. The amount of capital of these companies at the end of last year totalled Y.1,095,330,073, showing an increase of Y.215,335,067 compared with the preceding year.

Foochow Light and Power Co. Expands.—The Foochow Electric Light Co. has a monopoly of the sale of electrical power in Foochow and vicinity and has done well since opening business in 1910. The authorized capital of the company is \$1,200,000 Mexican (\$932,000 United States currency) and the paid-up capital, \$857,580 Mexican (\$666,000 United States currency). The number of lights (16-candlepower average) installed by the company increased from 36,000 in 1917 to 47,500 in 1918. Lighting is sold at flat rates or in accordance with the amount of current consumed. The flat rate is \$1 Mexican (\$0.78 gold) per month per lamp of 10 candlepower and the meter rate is \$0.28 Mexican (\$0.22 gold) per unit, with an additional charge of \$1.50 Mexican (\$1.17 gold) per month meter hire. The total gross profits in 1918 were \$256,000, and net profits amounted to about \$78,000.

During the year the company purchased 16 rice-polishing machines costing \$1,550 from Japanese firms, renting out the machines and selling current for them at profitable figures. Recently, to check the tapping of wires and the stealing of current, the company commenced the installation of special Japanese-made meters, heavily protected to prevent tampering, which are so constructed that the entering current of 220 volts is changed to a current, which leads to the lamps, of 110 volts. This prevents the tapping of the wires above and below the meters.

The company recently ordered an American steam turbine generator of 1,000-kilowatt power and expected to install it in 1919. Much of the equipment is American, but recently, on account of the war, much wire and a large quantity of supplies have been purchased in Japan. In 1918 a reinforced concrete chimney, 152-ft. high, was erected at a cost of \$10,000. The furnaces consume about 24 tons of coal a day. This coal comes from Formosa. The company has coal mines in the interior of the Province, but the cost of bringing the coal to Foochow makes it more expensive than the Formosan coal. The company plans to install a street railway system at Foochow. The manager is a Chinese educated in Japan and the assistant manager is a Chinese trained in the United States. Both are electrical engineers. An electric lighting plant is to be installed at Kienning in 1919, the material to come from Japan.

Protest Against Foreign-owned Wireless Stations in China.—The Peking Government has filed a protest with the Consular Body at Shanghai regarding the installation of wireless stations in the city by foreign official organs and

foreign residents. In instructing the Shanghai Commissioner for Foreign Affairs to take this matter up with the Consular Body the Government states that there are over forty foreign-owned wireless stations in the city, including those set up in the premises of the American, British, French and Japanese Consulates. As against these foreign-owned wireless plants China possesses but three stations in Shanghai, two of which are owned by the Ministry of Communications, while the third is controlled by the Ministry of the Navy. The Government adds that the American, Italian and Japanese Legations in Peking have also established wireless stations and that, as the erection of foreign wireless plants on Chinese soil is an infringement of Chinese sovereignty, the Chinese delegates to the Telegraph and Wireless Conference at Paris have been instructed to lodge a protest in this connection with the delegates of the foreign powers.

There are other foreign-owned wireless plants in China besides those mentioned in the Government's despatch to the Foreign Commissioner at Shanghai. The Japanese have set up masts at Tsingtao, Tsinanfu and Hankow and are using these installations to communicate with their Consulates and military forces stationed at the two latter ports. And it is reported in Peking that the Japanese are preparing to erect masts at Dalny, Mukden, Changchun and other points in Manchuria.

Foochow's 'Phone Facilities.—The Foochow Telephone Co. is controlled by the same group of Chinese who control the Foochow Electric Light Co. During 1918 a total business of \$43,000 was done, of which \$11,650 was profits. The system is the double-wire system and operators, who speak English, are employed for the benefit of the foreign subscribers. The operators total 40 in number and the subscribers 592. The charge for an ordinary wall telephone is \$46.60 per annum; for mitrophone, \$55.92 per annum, and for a switch telephone in connection with a wall telephone, \$27.96 per annum is charged.

The Chinese Government Telegraph Administration maintain 24 stations in inland places in the Province. These stations are connected by 600 miles of line. Four of these stations and 80 miles of line were added in 1918. During the recent revolutionary troubles eight of the stations were captured by rebels or brigands. An office of the Eastern Extension, Australasia and China Telegraph Co., a British company, is maintained at Foochow. At Sharp Peak, an island at the mouth of the Min River, the submarine cable of this company connecting Shanghai and Hongkong is landed. Three foreign operators live and are on duty in turn at this island station.

DOCKS

Foochow Dock at Standstill.—The Chinese Government Dock and Engineering Works are equipped with modern machinery and are in a position to do good engineering and ship repair work. Owing to the difficulties experienced in securing raw material from abroad on account of the war, the works have not been able to do much during the last few years. In 1918 several small launches were built and much repair work was done. Orders for warships were received, but construction was not commenced. There are three ways each capable of constructing ships up to 5,000 tons. Shipbuilding materials have been obtained from Great Britain, the United States, Shanghai, and Hongkong.—U.S. Consular Report.

CONSERVANCY

American Engineer for Min River.—The Min River and its branches form the principal means of communication between Foochow and its hinterland. However, above Foochow there are some dangerous rapids and, as the current is swift, the upward journey of boats is a risky and expensive matter. Steamers unload their cargo at Pagoda Anchorage, 25 miles from the sea and 9 miles below Foochow. Little has been done to improve the internal waterways or the Min River in the past.

In 1918, the Min River Conservancy Board was formed by members of the Chinese and foreign communities and a preliminary scheme drawn up with a view to improving the river to a depth of 10-ft. at low water between Foochow and Pagoda Anchorage. The project, which will cost about \$700,000 and require three years' time to complete, has received the sanction of the Peking Government and the Diplomatic Corps at Peking. An American engineer has been engaged for the work, which was begun in the summer of 1919. Funds for the work are now being collected by means of a surtax of 5 per cent. on the import and export duties and tonnage dues levied by the Maritime Customs, which is helping to finance the scheme.

MINING

Tungsten in Burma.—Because of the war-time demand for wolfram (tungsten), the production in Burma increased during the years 1914-1918, although the methods and machinery used were crude. It is thought that when the figures for 1919 are published they will be found considerably less than for the previous year owing to the curtailment of operations in the mines, due to the fall in the price of wolfram ore, says a U. S. Consular Report. China also suffered in the enforced cessation of tungsten shipments due to the close of the war demand. But new and easily accessible supplies recently have been located and the Chinese may be in position soon to meet the decreased price of this steel-making material by lower costs of winning what they termed in wartime "black gold."

Output of Minerals in Japan.—According to returns published by the Japanese Department of Agriculture and Commerce, the output of the principal minerals for the month of November last is as follows:

	November	Subsequent to January
Gold	147,963 monme	1,656,038
Silver	3,473,025 "	36,955,005
Copper	10,353,726 kin	116,435,043
Coal	2,256,205 French tons	25,596,336
Iron	6,860 "	68,769
Petroleum	164,420 koku	1,753,959
Sulphur	4,405 French tons	43,065

As compared with the corresponding month of the preceding year, gold shows a decrease of 11.4 per cent., silver 11.2 per cent., copper 8, and iron 3 and coal a gain of 25 per cent., petroleum 6.7, sulphur 16.9.

Coal and Iron Development in Shansi.—The proposed Sino-British co-operation for the development of the vast coal and iron deposits in Shansi province is so satisfactory, it has been stated, that the promoters of the enterprise are leaving for England and the United States to float the necessary capital so that mining operations can be commenced in northern Shansi as soon as possible. It is understood that the British Tao-Ching railway in Honan will be extended to this province by sanction of the Chinese government for the purpose of facilitating communications.

Magnesite and Talc in Manchuria.—It is reported that the magnesite deposits in Manchuria are sufficiently well proven up to show that they are extensive, and have a great potential value. The magnesite is for the most part too pure to use for making bricks without the admixture of 7 to 8 per cent. of iron. The Japanese own the larger part of the deposits, but the Chinese still have considerable areas under their control. Associated with the magnesite are numerous deposits of talc, which may be favorably compared with the high-grade French talc, but which have not yet been extensively developed. All of these deposits are from 3 to 10 miles from the South Manchurian Railway. As magnesite is in enormous demand as a lining for open hearth steel furnaces, the deposits are of great potential value.

Foreign Capital Opposed.—In view of a popular tendency among the local people to develop various mines in Kirin by means of foreign capital, entailing diplomatic complications, the Acting Commissioner of Industry of the Province issued a circular order to various district authorities to instruct the people to the effect that when they apply for mining concessions the applications must be accompanied by official certificates testifying that no foreign loans are connected with the enterprise. According to another report, the Agricultural and Commercial Department, Peking, decided to incorporate all the mines into national property.

Swatow Mining Industry.—The mining of wolfram ore near Swatow became important during 1918, but the falling off of the demand late in the year brought production to a standstill. Thousands of Chinese found employment in mining, collecting, and transporting this ore. This district and contiguous territory may be expected to resume production as soon as the market revives as upwards of \$2,000,000 was the value of one year's shipments.

CONSTRUCTION

New Hotel at Peitaiho.—Under the auspices of Mr. Chu Chi-chien and other prominent personages, a company to supply hotel and restaurant services at Peitaiho, the North China summer resort, is being organized with a capital of \$300,000. Official sanction for the organization of the company has already been obtained from the Ministry of Agriculture and Commerce.

Reconstruction of Hankow.—Certain of the native gentry of Hankow are now agitating for the commencement of the work of reconstruction which was planned for Hankow before the war broke out. An agreement was made in 1915 by Messrs. Samuel & Co., of London, for a loan for this purpose. The Hankow gentry want certain conditions modified and, unless this is done, they threaten to demand cancellation of the agreement on the ground that the loan was made to enable Yuan Shih-kai to carry on his monarchy scheme.

New Buildings in Kiukiang.—Kiukiang is just now much interested in the scores of new buildings going up on the filled-in land across the creek, and near the Railway Station, writes a correspondent at that port. The electric light building is being enlarged. The shops recently burned down are now being re-erected, and to the regret of many the street is only being slightly widened. The foundations for the new Customs building, on the west of the creek, are now marked out, and it looks as if, at last, something is going to be done. Work has been started on the new building of the Asiatic Petroleum Co. on the Bund, next door to the Japanese Bank.

New Hotel at Atami.—A big hotel, said to have a projected capacity of 1,000 persons, is to be erected shortly at Atami, Japan, by a new company, capitalized at ¥30,000,000, styled the Atami-Takaradzuka Estate Company, the principal promoters of which are Messrs. T. Kurachi, T. Wakao, K. Tomizu, and R. Takata. The new enterprise has already bought up the Atami Hotel at ¥650,000, and a large amount of land in the environs of the hotel, on which site the new edifice will be constructed. Other hotels are planned in the neighborhood of Atami and at Takaradzuka.

New Hotel for Shanghai.—The Shanghai Hotels Co., Ltd., propose to begin erecting at the latter end of the year the largest hotel in the Far East, at a cost of about Tael\$ 2,000,000. It will be 14 storeys high in the centre and 11 storeys in each of the two wings, and will contain 650 rooms. The dining room will seat 1,500 people. There will be two ball rooms, a theatre to seat 1,200 people, and all conveniences adopted by modern hotels in America. The main entrance will be on Bubbling Well Road, where the frontage will be 300-ft. Facing the racecourse there will be an open terrace 160-ft. by 26 ft., which will have behind it another terrace which can be closed in during the cold weather. The lobby will be carried out on a magnificent scale. The theatre will be steam heated in the winter and air cooled in the summer by direct attachment with the refrigerator plant. The plans are by Warren and Wetmore who designed the Baltimore, Commodore, Titz and Belmont Hotels in America.

FINANCIAL

Peking to Launch \$50,000,000 Domestic Loan.—In connection with the issue of a domestic loan to provide funds for the construction of a railway from Shichiaichuang to Tchow the "Shuntien Shih Pao" (Japanese) gives the following details:—

The loan will be raised by the issue of industrial bonds by the Ministry of Communications.

The total issue will be \$30,000,000, in \$10,000, \$1,000, \$100, and \$10 bonds. The bonds will carry interest of eight per cent., payable half-yearly.

The price of the bonds will be 95, Security, the surplus revenues of the Peking-Hankow railway. Repayment of the capital will commence in the third year and be completed in the twelfth year, by annual drawing of ten per cent. of the total bond issue. Interest will be paid in silver.

The proceeds of the loan will be used for:—

- 1.—The construction of the line from Shichiaichuang to Tchow.
- 2.—The construction of a line from Changchow to Amoy, Fokien Province.
- 3.—To meet the deficit in the administrative expenditure at the next Chinese New Year.

Release of Customs Surplus to China.—On account of stringency of finance, the Peking Government has arranged with the Inspector-General of Customs to release the customs surplus to the amount of Tls. 3,000,000. But subsequent events proved that this scanty sum is hardly sufficient to enable the Government to tide over the alleged difficulties. Accordingly, the Inspector-General of Customs is requested to release a further amount of Tls. 1,000,000 in order to cope with emergencies. To this, the Customs authorities agreed.

Currency Reform.—With a view of reforming the currency of the whole country on a uniform basis, the Chinese Ministry of Finance has issued circular orders to the provinces instructing the respective authorities to put a final stop to the circulation of debased currency. Unauthorised issue of bank notes is also strictly prohibited.

Singapore and Java Bank.—The directors of the London, Singapore & Java Bank announce that certain proposals have been made to them on behalf of a financial group with the object of acquiring a controlling interest in the bank by the purchase of its shares. The offer, which is made subject to acceptance by holders of not less than 85 per cent. of the shares, is to pay £12 for each £10 fully paid "A" share and £6 for each paid up £5 "B" share. It is understood that the prospective purchasers intend materially to change the scope of the bank's operations.

Banks at Hankow.—According to the Chinese Press, the Hankow branch of the Bank of Communications showed a profit of \$220,000 last year, the Bank of China \$240,000, the Bank of Chien Fong \$160,000 and the Hwangpei Bank of Industry \$140,000.

Liquidation of Territorial Bank.—Upon the recommendation of Mr. Yang Tseng, Commissioner of Foreign Affairs at Shanghai, the Government has ordered the Cabinet to discuss the liquidation of the Bank of Territorial Development in Shanghai. This bank, which recently passed into liquidation, involved many debtors and creditors, both foreign and Chinese. Owing to the constitutional procrastination of the Government much time has elapsed since the order was given and nothing has been done. Mr. Yang Tseng has again telegraphed for immediate instructions and asked to have officers sent to Shanghai to work on the matter. He claims that further delay on the part of the Government will occasion foreign protest.

New Exchange Bank.—A Chinese Exchange Bank—the Taiho Bank—is being established at Hongkong with a subscribed capital of £1,000,000, one-half paid up. The Bank's operations will be confined to exchange business, and branches are to be opened at Shanghai, Amoy, Singapore and Java.

Banque Industrielle Opens in Yokohama.—The Banque Industrielle de Chine is extending its operations to Yokohama. An office has been opened in Yokohama, and will be managed by Mr. Berthier, who has been in charge of the branch at Vladivostok for some time.

American Bank of China.—Papers were filed with the Secretary of State at Hartford, U.S.A., on January 1, incorporating the American Bank of China, Inc., the incorporators being Charles Denby of Washington and Samuel Spring and Percy Atlerton, both of Boston. The bank is authorized to begin business with a capital of \$1,000,000, and its headquarters will be in Hartford. According to the company's charter it is empowered to engage in the banking business with China, Japan and the countries of the Far East, always in accordance with the general banking laws of Connecticut.

MISCELLANEOUS

Iron and Steel Imports.—Iron and steel imports into Hongkong for the last quarter of 1919 was £496,120, a decrease of about £250,000 in comparison with the previous three months.

Engineering Students Arrange Transfer to Peking University.—The two hundred and sixty-four engineering students of Peiyang University, Tientsin, have, according to a declaration issued recently, completed arrangements to take the entrance examinations to Peking Government University and finish their course in that institution. The students say that when the authorities set up an efficient administration at Peiyang they are prepared to return to this institution.

Motor-Bus Service for Shanghai.—According to an announcement an application has been made to the Shanghai Municipal Council by the "Chinese Motor-Bus Company" for permission to inaugurate a service shortly. The service will be supervised by a Chinese automobile engineer who has recently returned from abroad.

Japanese Post Offices in Shantung.—The question of the establishing of postal offices and telegraph stations by Japanese authorities in the Tsinanfu-Tsingtau Railway zone since the capture of Tsingtau has been referred to the Shantung provincial authorities for a thorough investigation before the lodging of a strong protest with the Japanese Government in accordance with treaties concluded between the two countries.—"Peking Leader."

Navigation in North Manchuria.—An agreement is reported to have been entered into by Chinese and the Russian Soviet in Heiho governing navigation of the Amur and Sungari Rivers by Chinese steamers.

Custom's Guild is Formed in Shanghai.—Dissatisfied with recent methods of control the outdoor staff of the Maritime Customs at Shanghai held a meeting on March 11 and unanimously—one dissentient—passed a resolution in favor of the formation of a Custom's Guild as a protective measure. After the resolution 148 immediately signed the roll of membership.

Predicts Trans-Pacific Fares to Rise.—Higher passenger fares on the Pacific liners are predicted by a prominent shipping man interviewed by "The Japan Advertiser." Although the rates are now higher than before the war, they are not increasing in proportion to the cost of service, and the steamship companies cannot continue to give the present accommodations for the present fare. On the first class liners of the principal companies the fare from Yokohama to San Francisco or Vancouver is now \$250.

This shipping expert expressed the opinion that the present amount of travel to the Orient is abnormal, and is inclined to believe that when conditions resume normality there will be a falling off in travel to the Far East. Before the war, he says, the majority of trans-Pacific travelers were tourists and government and civil employes to and from the Philippines. At present this travel is augmented by a large number of American business men. The new Shipping Board steamers will amply accommodate the present visible travel when they are all in operation, which would make the construction of new liners a greater gamble than shipping men care to take.

Privately owned steamship companies operating on the Pacific are not at present considering the building of new passenger liners for handling the great number of prospective travelers to the Far East. Plans are drawn and ready to be submitted to contractors for the construction of the new Toyo Kisen Kaisha liner, which is to be named the *San Francisco Maru*. Work has gone no further than this, and events of the next two years will determine whether it will be profitable to construct such a steamer.

Big shipping men of the Far East are watching closely the effect on the Pacific passenger trade of the placing of the big liners of the United States Shipping Board on the Pacific run. These men are of the opinion that the present condition of affairs is only temporary and are direct results of the great war. The Far East is undergoing a great reconstruction period and it is believed that within the next two years conditions will become settled and it will then be possible to make a correct estimate of the number of passenger ships which may be profitably operated.

Japanese Universities for China.—A press despatch from Tokyo reports that under the auspices of a certain Japanese resident in China a highly interesting plan is maturing among Japanese and Chinese interested in the international trade of the two countries. The plan, according to the "Seoul Press," consists in the establishment of twenty universities in North and South China and the publication of a great newspaper. Between 100 and 150 million yen will be raised by subscription among the promoters as a fund for its execution. The motive of the authors and supporters of the plan is to fill up the void keenly felt by all intelligent Japanese interested in China—the absence of any instrument worthy of mention to serve as a permanent link connecting the civilizations of the two peoples.

Japan's Foreign Trade.—According to investigations made by the Japanese Department of Finance, Japan's foreign trade during February amounted to Y.173,116,000 for exports and to Y.269,998,000 for imports, showing an excess of Y.96,882,000 in favor of imports.

Chinese Coolies Return.—Of the 90,000 Chinese coolies engaged in France, 70,000 had been repatriated by the end of February. The remaining 20,000, specially selected, will continue their work for a further period of two years.

Chinese Delegates to U. S.—It is announced that Mr. C. C. Nieh, Manager of the Hong Foong Cotton Mill and Dr. John Y. Lee, of the National Committee of the Y.M.C.A., have been appointed to represent China at the International Trade Conference to be held at San Francisco from April 1 to 5. Mr. Nieh proposes subsequently to tour the United States and Europe to investigate factory condition.

Japan's Trade with the South Seas.—Japan's trade with the Straits Settlements, the Dutch East Indies, French Indo China, the Philippines and Siam for last year amounted to Y.82,369,539 in exports and Y.131,121,481 in imports, totalling Y.213,493,620. Compared with the preceding year, the exports show a decrease of Y.44,629,555 while the imports show a gain of Y.12,862,704.

Sino-German Commercial Treaty.—The Chinese Government, in view of the persistent request on the part of the German Government, presented through the diplomatic channel of Minister W. W. Yen in Denmark, has now replied to the Minister by wire that, pending the final settlement between this country and Germany with regard to the signing of the Peace Treaty, there is no possibility of renewing the commercial relations in the immediate future. The Minister is requested to bring this decision before the German authorities on behalf of the Chinese Government.

Official Inspection of Cotton.—The Industrial Bureau of Shantung received advice from Peking to the effect that the Cotton Adjustment Office will detail Mr. Hsiung Chi-kuei, a member of the Office, to inspect the actual conditions. Instructions have been issued to the District Magistrates concerned to make preparations to receive Mr. Hsiung and facilitate his inspection.

Japan-China Export Trade.—The total value of Japanese exports to China during February was Y.34,049,000, according to a report issued by the Finance Department. The figure was an increase of Y.920,000 over the corresponding period of last year and of Y.2,794,000 over January this year. The shipments to the Yangtze provinces and to South China fell away somewhat, but the exports to Manchuria and North China recorded a pretty good advance.

Sino-Japanese Commerce Commission.—The Tokyo Commerce Commission recently called a conference. Subsequent to the interchange of opinions a Sino-Japanese Commerce Commission was advocated as an organization for the mutual benefit of the two countries. In the Conference, the following five resolutions were passed:—

(1) That China and Japan will be on an equal footing, and merchants of both countries will enjoy similar privileges. It is asserted that this will bring about universal peace in the Far East and indirectly peace in the World.

(2) That mutual co-operation should exist between Chinese and Japanese Commerce Commissions.

(3) That commercial conferences should be held at least once every year so as to discuss the results of local Japanese Commerce Commissions and those established in this country.

(4) That various commercial associations and commissions be encouraged to bring about co-operation, which will result in successful enterprises.

(5) That a Sino-Japanese Commerce Commission should be inaugurated. It is reported that effective steps are being taken to summon a great Conference at the beginning of next month for the discussion of the whole question so that final approval may be given to the above items.

Japanese Exhibition in 1922.—The Japanese Department of Agriculture and Commerce and the Japan Exhibition Association are arranging to hold, in 1922, a great national exhibition in celebration of the restoration of Peace and completion of the Meiji Shrine.

China's Debased Currency.—The Diplomatic Corps at Peking has addressed a Note to the Ministry of Foreign Affairs, protesting against the issue of debased copper coins by the Government Mint at Nanking, as a result of which, it is alleged, the financial market in Shanghai has been much affected. The Note points out that in spite of the former protest of the foreign Legations, the Nanking Mint recently again turned out one million debased copper coins and handed them to the Shanghai branch office of the Bank of China to be issued in that port. The Government is requested to issue orders to stop the issue of these coins in Shanghai, as, in the opinion of the foreign ministers, the circulation of such debased coins in the Shanghai market would cause serious financial losses to the people there. The Ministry of Foreign Affairs has brought the matter to the notice of the Ministry of Finance for the latter to deal with.

Women as Tram Conductors.—Tokyo, with an eye on economy, is considering a scheme whereby she may checkmate the demand for increased wages made by the tram conductors. The success attending the employment of women on the motor-buses has set the Bureau officials to thinking that women might be employed as tram-conductors. The advantages of the scheme are obvious. They will work for less wages, and will give little trouble by threatening strike. It is questionable whether the motor-men will continue to work in this event. It is the general opinion that out of sympathy with male conductors the motor-men may strike. Nagasaki is also favorable to such a scheme, and has already selected certain candidates for the experiment.

Tokyo-Yokohama Canal.—In order to develop the districts between Tokyo and Yokohama for industrial purposes, a proposal is afoot to construct a canal between the two cities which will serve intermediate centres. The proposal was discussed at a meeting held recently, a plan of the canal being submitted.

Another Sino-Japanese Corporation.—A certain Japanese capitalist named "Ta-chan-hsi-po-lan" has been negotiating with the Fengtien Authorities for the organization of a Sino-Japanese Corporation for the development of Eastern Mongolia. A set of regulations has already been drawn up for the formation of a Company to be styled the "Hsing Fa" Company, which will have the control of all affairs connected with the reclamation of waste lands in Eastern Mongolia. The capital will be Y.6,000,000, to be equally subscribed by the Chinese and the Japanese; and the head office will be in Mukden.

Cable Delays.—A letter circulated to members of the British Chamber of Commerce, Shanghai, to explain the delay in cables between Shanghai and Europe states: Out of six groups of lines operating before the war, only four are operating at the moment. Of the three routes which formerly served (normally) China and Japan only one is operating. The trouble is further aggravated by new breaks between Cornwall and Gibraltar. Cable is being manufactured for extensions from Gibraltar to Singapore but when it will be laid it is impossible to say.

Oriental Steel Companies Buy Equipment.—The William B. Pollock Co. of Youngstown, Ohio, is filling a contract for 50-gross-ton capacity hot metal, ladle cars and 315-cubic-foot capacity cinder cars for the blast furnaces and steel plant of the Han Yeh Ping Iron and Coal Co. It is also supplying 75-ton hot metal ladles and cars for the two new blast furnaces of the Indian Iron and Steel Co., Calcutta.

Transportation in Tokyo.—Traffic problem in Tokyo becomes increasingly difficult, and there is more talk of building tube railways in the district near the Tokyo Railway Station. There is an increasingly large number of modern office-buildings, and it is calculated that by the end of three or four years, there will be something like 60,000 to 70,000 people employed in this section alone. The street car and electric train services are at present over-taxed and drastic measures will soon be necessary to relieve the congestion.

Hawaii Wants Chinese Laborers.—A delegation of citizens from Hawaii, appearing before the House Immigration Committee, requested modification of the immigration laws so as to permit the bringing of 40,000 Chinese coolies into the territory for work on sugar and rice plantations. Spokesmen for the delegation said Japanese workmen were on strike and that the Chinese were needed to work the crops. No action was taken on the request, and the delegation will be given a further hearing later in the week.

Motor Boats in China.—Motor boats are gaining in popularity among the Chinese, and the time seems not far distant when they will be in far more general use for business and pleasure. It is reported to the Far Eastern Division of the Commerce Bureau that at least fifty boats are being constructed in the various yards at Canton, and that there is a demand for motor-boat engines developing from 15 to 35 horse-power. While American engines are popular, manufacturers should take into consideration that the Chinese give great weight to the price, rather than basing their purchases solely on quality, especially as European manufacturers undoubtedly will take advantage of this fact in their efforts to capture this growing market.

Chinese Skilled Engineers.—Chinese locomotive engineers have the gentlest sense of touch with the air-brake of any in the world. A break in two is almost unheard of, and there is very little damage to cars in shunting on Chinese railways.